BEFORE THE ENVIRONMENT COURT

In the matter of	appeals under clause 14 of the First Schedule to the Resource Management Act 1991 concerning the Proposed One Plan for the Manawatu-Wanganui Region.
between	**FEDERATED FARMERS OF NEW ZEALAND** **ENV-2010-WLG-000148**
and	**MINISTER OF CONSERVATION** **ENV-2010-WLG-000150**
and	**DAY, MR ANDREW** **ENV-2010-WLG-000158**
and	**HORTICULTURE NEW ZEALAND** **ENV 2010-WLG-000155**
and	**WELLINGTON FISH & GAME COUNCIL** **ENV-2010-WLG-000157**
	Appellants
and	**MANAWATU-WANGANUI REGIONAL COUNCIL** *Respondent*

EVIDENCE IN REPLY FROM CLARE BARTON ON THE TOPIC OF SURFACE WATER QUALITY – NON-POINT SOURCE DISCHARGES ON BEHALF OF MANAWATU-WANGANUI REGIONAL COUNCIL

Dated: 17 April 2012

Solicitor: John W Maassen/Nicholas Jessen

Administrator: Sharon Belk

Address: 11-15 Victoria Avenue
Private Bag 11025
Palmerston North 4442

Telephone: (06) 952 2800
Facsimile: (06) 952 2929
Email: sharon.belk@horizons.govt.nz

EVIDENCE IN REPLY FROM CLARE BARTON ON THE TOPIC OF SURFACE WATER QUALITY – NON-POINT SOURCE DISCHARGES ON BEHALF OF MANAWATU-WANGANUI REGIONAL COUNCIL

Introduction

Qualifications and experience

1. My name is Julie Clare Barton and I am a senior consents planner at Manawatu-Wanganui Regional Council (MWRC). My qualifications and experience are set out in my statement of evidence to the Court dated 14 February 2012.

Terms

MWRC	=	Manawatu Wanganui Regional Council (Horizons)
NPS Freshwater	=	National Policy Statement Freshwater Management (2011)
MfE	=	Ministry for the Environment
LUC	=	Land Use Capability

Planner Conferencing on Surface Water Quality – Non-Point Source Discharges

2. On the 4th and 5th of April 2012 the planners for the Minister of Conservation, Wellington Fish and Game Council, Andrew Day, Ravensdown, Federated Farmers, Fonterra and myself met. A record of the erratum to the conferencing statement was provided to the Court on 17th April 2012. Whilst I consider the discussion was helpful from a theoretical perspective, the fundamental issues in contention were not discussed within the time available.

3. I consider that the fundamental issues that remain in contention are:

   (a) The use of Table 13.2 "Cumulative Nitrogen Leaching Maximum by Land Use Capability Class" for existing dairy.

   (b) Which intensive farming activities should be captured in the regulatory regime and when they should be captured.

   (c) Which water management sub-zones should be identified as specified or targeted catchments.

4. I have provided evidence on each of these matters and will not repeat that evidence. I address in this statement the following issues raised by other planning witnesses that I have not addressed in my evidence in chief or that require further elaboration:

   (a) Should the word used in Chapter 6 policies in relation to Schedule D be numeric, target or limit?

   (b) A change to the deposited sediment and QMCI numerics in Schedule D.

   (c) Sand country LUC.

   (d) The inclusion of a value for Domestic Food Supply in Schedule AB.

   (e) Nutrient trading.

   (f) Amended wording for the provisions in Chapter 13.

What word should be used in relation to Schedule D?

The use of the word limit vs numeric vs target in relation to Schedule D

5. The NV POP preceded the gazetting of the NPS Freshwater. In my opinion the Court should make every endeavour to give effect to the provisions of the NPS Freshwater within the scope of resolving specific appeal points so the MWRC's plan is as environmentally fit for purpose as possible. This does not mean however, that in resolving an appeal the Court should adopt all the NPS Freshwater nomenclature. Caution is required. In considering how best to give effect to the NPS there needs to

be a careful assessment of both documents and their original purpose. 'Cherry picking' provisions from one document (i.e. the NPS) and inserting them in POP runs the following risks:

(i) A nationally consistent implementation plan is still being developed. Practitioners are currently evaluating and debating interpretation and the implementation of the NPS Freshwater at a national level. The ultimate aim, as I understand it, is to achieve consistent implementation of the NPS across the country. Any assumptions made now as to how to give effect to the NPS in the POP may on reflection, after the implementation work is complete, prove to be wrong.

(ii) The integrity of the POP may be compromised by the adoption of all NPS nomenclature. The water management framework for POP is regionally specific and whilst it is generally consistent with the key themes of the NPS Freshwater it is not always consistent. There is a need to think of the whole rather than focusing on one matter and what is achievable within the scope of the remaining arguments on surface water quality.

(iii) Appropriating language from the NPS Freshwater may create meanings and an approach quite different to those intended.

6. Debate about what form freshwater objectives and limits will take in the implementation of the NPS Freshwater is not resolved at this time. This means any views on implementation should be regarded as interim or transitional until a national approach is determined.

7. Based on my current understanding of the NPS Freshwater, (heavily influenced by the Ministry for the Environment Implementation Guide[1]), and my knowledge of how the water quality framework in the POP was developed, I consider:

(i) The surface water quality management values in Schedule AB of the DV POP correspond to the "community values/outcomes" described in the NPS Freshwater.

[1] New Zealand Government. Ministry for the Environment (2011). *National Policy Statement for Freshwater Management 2011: Implementation Guide.*

(ii) In my opinion freshwater objectives focus on the amount of "material" in the water. I therefore believe the numerics in Schedule D correspond to freshwater objectives i.e. in terms of the NPS and Implementation Guide they can be considered to be detailed numeric freshwater objectives because they describe the state of water quality required in rivers and lakes to enable the ecosystemic and community values/outcomes for surface water quality to be achieved.

(iii) In my opinion a limit as used in the NPS Freshwater is a quantity of material a resource user can safely discharge to a river or the amount of water that can be used without causing adverse effects on freshwater objectives. I do not consider that the POP explicitly states environmental limits to be achieved within a 30 year implementation period as contemplated by the NPS Freshwater and the MfE Implementation Guide, except the allocatable volumes determined for water quantity in Schedule B.

(iv) In terms of nutrient management a nitrogen limit (load) (kg/yr) has been determined for specified catchments by MWRC scientists to scale the degree of over allocation and provide a basis for a management response. It is contained in Jon Roygard's Section 42A report to the Council Hearing.

(v) The nitrogen measured and target load are also used to isolate the contributions of point source from non-point source discharges and this informs the nitrogen allocation mechanism in Proposed One Plan – Part II, Chapter 13, Table 13.2.

8. I understand Ms Sweetman on behalf of Wellington Fish and Game to be saying in relation to the numerics in Schedule D that:

(a) The numerics are not targets (as defined in the NPS Freshwater).

(b) The numerics are not standards.

(c) The numerics are limits (as defined in the NPSFM) given their relationship to the Schedule AB values.

9. I also understand that the technical experts refer to the Schedule D numerics in various ways, although for the purposes of conferencing they use the term limit. For example, periphyton and deposited sediment numerics are said to operate as

targets; the SIN numerics are limits and the ammoniacal nitrogen numeric is a standard.

10. Given the smorgasboard of terminology used I consider it prudent not to use the word limit, standard or target but rather use a generic word such as numeric. This terminology was adopted by the parties at mediation. It enables the parties to move from linguistics and focus on formulating appropriate goals in policy.

A change to the deposited sediment and QMCI numerics in Schedule D.

11. Associate Professor Death for the Wellington Fish and Game Council[2] has included in his evidence some suggested changes to Schedule D in relation to the deposited sediment numeric. MWRC staff had been in discussions with Fish and Game and the wording changes attached to Associate Professor Death's were ones developed by MWRC staff. I understood this matter would be resolved by way of consent order however, now that the matter has been presented in evidence I understand the Court will need to determine the matter. The changes to the deposited sediment numeric in Schedule D are acceptable and appropriate. The technical conferencing record[3] identifies that all parties present, with the exception of Mr Scarsbrook for Fonterra, agreed to the proposed changes. A memorandum regarding the deposited sediment standard is attached as Appendix One.

12. The technical conferencing record[4] notes that there is some disagreement between Ms McArthur for MWRC and Associate Professor Death for the Wellington Fish and Game Council regarding the appropriate limit to measure the effects of point source discharges on QMCI. Appendix A to the technical conferencing record sets out Ms

[2] Appendix 1 to the Evidence in Chief of Associate Professor Russell Death for the Wellington Fish and Game Council.

[3] Point 9 of the Record of Technical Conferencing on Nitrogen Limits and Water Quality Sub-Topic in Relation to Surface Water Quality – Non Point Source Discharges Held 29 March 2012.

[4] Point 8 of the Record of Technical Conferencing on Nitrogen Limits and Water Quality Sub-Topic in Relation to Surface Water Quality – Non Point Source Discharges Held 29 March 2012.

McArthur's view regarding the changes proposed to QMCI by Associate Professor Death and identifies that Ms McArthur does not agree with the changes. In summary, Ms McArthur's concerns are:

a) Using a statistical test rather than an absolute limit introduces a risk of error.

b) Statistically significant differences are not necessarily ecologically meaningful.

c) Percent change limits are commonly and legitimately used.

d) Using a Plan numeric to drive a desirable sampling regime is not a justifiable reason for setting a numeric using statistical significance as the criterion.

13. I understand from the technical conferencing statement that Associate Professor Death will respond to the points raised by Ms McArthur in his evidence in reply. I have not yet seen that evidence and have therefore not been able to consider it. In the absence of this evidence I accept the concerns raised by Ms McArthur and propose no change to the QMCI numeric in Schedule D.

Sand Country LUC.

14. Ms Marr[5] refers to the evidence of Mr Grant that where limitations of sand country are overcome by irrigation then LUC class can be reassigned. Ms Marr identifies that the current Land Use Capability Survey Handbook does not reflect the approach taken by Mr Grant. Ms Marr proposes a change to the definition of Land Use Capability Class in the glossary to refer to Mr Grant's approach.

15. The definition for Land Use Capability Class in the DV POP states:

"means a classification of a parcel of land in terms of five characteristics or attributes (rock, soil, slope, erosion, vegetation). The land use capability class can be derived either from the New Zealand Land Resource Inventory (NZLRI) or by a suitably qualified person specifically assessing and mapping the land use capability classes for a particular parcel of land. Where the LUC is assessed by a suitably qualified person,

[5] Paragraph 224 (page 61) of the Evidence in Chief of Ms Helen Marr for the Minister of Conservation and the Wellington Fish and Game Council.

that person may use the more favourable classification of the land available applying the 3rd or 2nd edition of the Land Use Capability Survey Handbook."

16. The Land Use Capability Survey Handbook (3rd Edition) includes the following[6]:

"LUC assessment can also be adjusted by major schemes that permanently change the degree of the limitation, such as large scale irrigation, drainage or flood control schemes.

For land where permanent irrigation has been installed (e.g. a centre pivot, border dykes) the classification is made on the basis that the soil moisture limitation has been permanently removed."

17. I do not consider it necessary to amend the definition of Land Use Capability Class in the way proposed by Ms Marr. The Land Use Capability Survey Handbook already provides for the LUC class to be reassigned where the limitations of sand country are overcome by irrigation and as this handbook is referenced in the definition I do not consider any further change is necessary.

The inclusion of a value for Domestic Food Supply in Schedule AB.

18. I did not comment in my evidence in chief on the inclusion of an additional value within Schedule AB for Domestic Food Supply as this was a matter that was being dealt with by way of a Memorandum between the parties. A copy of the memorandum as signed by MWRC and Horticulture NZ is attached as Appendix One. When Horticulture NZ sent the memorandum to the s274 parties it must have raised an issue for the Minister of Conservation and the Wellington Fish and Game Council and Ms Marr has responded by making comment on the matter in her evidence. I was not aware of the concerns raised by Ms Marr until I read her evidence. Now that the matter has been raised in evidence I need to respond in evidence and I

[6] Section 3.3.5.2 Physical Limitations (pages 86 and 87). Land Use Capability Survey Handbook. A New Zealand Handbook for the Classification of Land.

presume the memorandum process can no longer be pursued as the matter is now before the Court for determination.

19. Appendix A within the memorandum attached notes that it is proposed to have a value for *"Domestic Food Supply"* within Schedule AB and a supporting management objective in Table 6.2 *Surface Water Management Values and Management Objectives* that states: *"The water is suitable for domestic food production"*.

20. In response to the proposed inclusion of a value for domestic food supply, Ms Marr in her evidence in chief[7] states:

"...Based on my knowledge of this issue, I expect that the inclusion of the Value is to ensure that water is of sufficient quality to ensure it is suitable for the irrigation and onsite processing of human food crops. Values of "irrigation" and "industrial abstraction" are already included in Schedule AB and apply across the whole Region. In my view, these should be sufficient to provide for the uses identified...

If there was evidence to suggest that the current "irrigation" and "industrial abstraction" values are insufficient, I would still not support its inclusion in its current form. In my view both the Management Objective and the spatial definition are too broad. The Management Objective as proposed is currently very broad and should be refined to clearly identify what aspects of the water and use it applies to. Based on my understanding of the issue, I believe it should be refined to state "the quality of the water is suitable as a supply for the irrigation and processing of crops for human consumption".

21. I understand Ms Marr to be saying that she could only support the inclusion of a value for domestic food supply if the wording within the management objective column in Table 6.2 is refined and the water management sub-zones the value applies to, is narrowed.

22. I understand both Horticulture NZ and the Minister of Conservation/Wellington Fish and Game Council have had further discussions and generally agree to the following wording within the Management Objective column in Table 6.2:

[7] Paragraphs 81 and 82 on page 24. Evidence in Chief of Helen Marr for the Minister of Conservation and the Wellington Fish and Game Council.

"The quality of the water in the water body is suitable as a source for use in the growth and processing of crops for domestic food supply."

23. To provide a greater degree of consistency between this wording and the wording already contained within Table 6.2 for other water use values (e.g. water supply and irrigation) I suggest the following wording be included:

"The water is suitable for use in the growth and processing of crops for domestic food supply."

24. Figure AB: 12 *Visual Guide to the Distribution of the Domestic Food Supply Value* identifies the water management sub-zones where this value would apply. Ms Marr has questioned in her evidence the need for all of these sub-zones to be captured. I would request that Horticulture NZ provide evidence on this matter to the Court.

25. I would like to bring to the Court's attention that Horticulture NZ has not, to date, provided evidence to the Court as to the reasons for the inclusion of the value of Domestic Food Supply.

26. I understand that Horticulture NZ is not seeking to boost the priority of use for water abstractions for domestic food supply. Indeed the change sought would not achieve that outcome and certainly that outcome would not be something I could support. The concept of essential takes appears in Policy 6-19 (b) *Apportioning, Restricting and Suspending Takes in Times of Minimum Flow.* The policy recognises that certain essential takes will require a minimum amount of water during times of minimum flow in a river. This policy is not linked to the Schedule AB values and hence the inclusion of a vale for Domestic Food Supply will not achieve the outcome of providing for horticultural activities as an essential take.

27. I understand that the reason for the inclusion of the additional value is to provide for a value of domestic food supply rather than relying on the broader values of irrigation and industrial abstraction. These broader values apply across all water management sub-zones whereas the domestic food supply value would only be ticked within the sub-zones where horticultural activities are undertaken. The values form part of the framework of management objectives and indicate the values associated with any particular water management sub-zone. These value objectives are assessed in any resource consent situation where someone may wish to take

water or discharge to water to make sure these values are recognised and not compromised by a particular activity.

Nutrient trading.

28. The evidence in chief of Mr Percy for Andrew Day proposes a trading regime for nitrogen transfer rights between landowners within the same water management sub-zone. I do not specifically address in my evidence in chief nitrogen trading although I do include in my proposed Policy 6-7A clause (d) that: *"As additional land uses are regulated then the policy framework may include mechanisms to provide for nitrogen trading"*.

29. Mr Percy states in his evidence in chief[8]:

"A trading regime in the context of the POP involves adding the ability to transfer nitrogen leaching rights between landowners in order that each landowner meets the regulated nitrogen leaching limits set in the Plan…

Trading creates several risks to achieving the water quality objectives, primarily because trading enables all allocated nitrogen leaching rights to be taken up (all unused nitrogen leaching allocation is purchased and used by landowners wishing to maximise their nitrogen leaching)….

Trading provides the opportunity for land that is not currently regulated to positively contribute to achieving the water quality objectives by ensuring that nitrogen leaching from that land is managed to meet the catchment nitrogen leaching cap. Without trading, unregulated land uses are not required to control their nitrogen leaching cap. Without trading, unregulated land uses are not required to control their nitrogen leaching…"

30. I agree with the statement made in the Planner Conferencing Statement[9] that nitrogen trading will work best where all land uses within the same catchment (or

[8] Paragraphs 15 to 18 (page 7) of the Evidence in Chief of Mr Phillip Percy on behalf of Andrew Day.

water management sub-zone) are captured by the trading system. As I am not proposing regulation, other than for dairy, I do not therefore consider it appropriate to include provision for nitrogen trading at this time. I have however, acknowledged through Policy 6-7A(d), that as other land uses become regulated then nitrogen trading can be included. The regime would be included by way of a Plan Change process which allows for the full consideration of all potential implications of such a regime and allows for engagement with the farming community before such a regime is proposed. Provision for trading was not included in the NV POP. Therefore whilst Mr Day's appeal potentially provides scope to include a trading regime it would in my opinion, be better planning practice to ensure the farming community is consulted appropriately to understand the concept before including it in the POP.

31. Mr Percy has included a provision within his proposed nitrogen trading regime which allows for non-intensive farming (currently unregulated) to transfer nitrogen loss units to other land if the net nitrogen loss from the non-intensive farm is at or below that land's Year 20 limit.[10]

32. I understand that Mr Percy proposes that unregulated land uses that wish to trade be required to obtain a resource consent. Mr Percy considers that capturing the non-regulated activities would provide a more efficient trading system. I accept that it likely will result in a more efficient trading regime but efficiency of trading is not in my mind the only test that should be applied when considering the introduction of regulation. For example, how likely is it that the non intensive land uses will go through a resource consent process to help another farmer when they will be subject to all the performance conditions proposed in Mr Percy's Rule 13-1X? Would it be more efficient to provide mechanisms outside of regulation to enable trading with these activities?

33. Mr Ballingall for Fonterra sets out a list of features for a nitrogen trading regime and Mr Percy refers to these criteria[11]. I note that one of those criteria is the need for

[9] Clause 29, Erratum to the Record of Planner Conferencing on the Topic of Surface Water Quality – Non-Point Source Discharges held on 4 and 5 April 2012 and dated 16 April 2012.

[10] Paragraph 65 c. (page 20) of the Evidence in Chief of Mr Phillip Percy on behalf of Andrew Day.

[11] Paragraph 66. (page 20) of the Evidence in Chief of Mr Phillip Percy on behalf of Andrew Day.

institutional arrangements to be in place to register entitlements, monitor transactions and reconcile market activity and physical inventory changes.

34. Mr Percy assumes that the consent process would enable a simple nitrogen transaction system to be established to provide a record of the nitrogen transfer between the parties. Whilst I consider the resource consent application process would record who wants to transfer and with whom that is not the end of the process. Once the applications are received a database would be required within Council to record who is transferring what within each sub-zone. Checks would be required as to whether any of the parties have previously been involved in a transfer to another party. There would be ongoing monitoring required of the transactions. These processes require Council staff time to set up and monitor. This may lead to additional consent processing costs. What is the quantum of these costs? Would it be appropriate to pass these costs on to the applicants if the Council is trying to encourage trading? If they are not passed on to the applicant what are the implications for rate increases?

35. I have too many unanswered questions to be able to support a trading regime at this time. In my opinion, careful consideration of such a regime is required. The inclusion in Policy 6-7A(d) of nitrogen trading as other land uses are added will in my opinion, provide the time to properly address the issue and consider all options and select the most appropriate.

Amended wording for the provisions in Chapter 13.

36. Attached as Appendix Two is an updated proposed track changes document for Chapter 13. Changes are proposed and are shown in turquoise highlight. The main change is to Policy 13-2C (d) where I propose deleting the proposed exception clause regarding LUC Classes IV to VIII where there is an average rainfall in excess of 1500mm. This matter has been raised by Mr Taylor in his evidence in reply.

Clare Barton
SENIOR CONSENTS PLANNER

APPENDIX ONE

Memorandum Regarding Deposited Sediment Agreement

horizons regional council

MEMORANDUM

FILE:

DATE: 18 January 2012

TO: Jon Roygard and Maree Clark

FROM: Kate McArthur and Clare Barton

SUBJECT: **DEPOSITED SEDIMENT NUMERIC FOR THE ONE PLAN - OUTCOME OF MEETING WITH FISH AND GAME**

Hi Jon and Maree,

We met this morning with representative from Fish and Game and DoC to discuss the proposed deposited sediment (DS) standards for the region circulated by Horizons in late December. We did agree that the numeric should not apply to consent activities in the Plan and that greater flexibility was provided by using the guidelines on a case by case basis rather than Schedule D. Footnotes to clearly explain this within the Plan have been drafted for comment (as are included for the MCI numerics in the decisions version).

Both F&G and DoC were concerned that the maximum limits for DS were too high for some classes of the Life-supporting capacity and Trout Fishery values because the proposed limit did not incorporate any degree of change from reference condition. This may mean that for sub-zones our SoE or Policy Effectiveness performance measure from Schedule D is twice an appropriate maximum for some of the sensitive LSC classes and for the outstanding Trout Fishery waters. Their argument was fairly persuasive in terms of sensitive areas high in the catchment with hard geology and was a defensible position for them to take.

All parties agreed that using reference condition and the degree of departure from that (as specified as part of the national guidelines developed by Clapcott et al 2010) was problematic in the Plan and so a pragmatic compromise was reached for these areas. The application of a 15% DS maximum was agreed as this assumes a reference condition of 0-5% (which was consistent with monitoring data we had) and a maximum 10% increase on top of this.

The proposed DS maximum cover limits for Schedule D are as follows:

LSC class	TF class	DS limit
UHS	Outstanding	15%
UVA		
UVM	Regionally significant	20%
ULi		
HM		
LM	n/a	25%
HSS		
LS		

Additionally, discussion of deposited sediment in relation to Trout Spawning waters occurred with Fish and Game preferring the narrative limit of no measureable increase during trout

spawning (from the decisions version of the Plan) as this was more stringent than the HRC proposal of 20%. Again some discussion was had about the appropriateness of the 20% threshold as the guidelines clearly state on page 88 that the boundary between adequate and good DS cover for trout spawning is 10% whereas the 20% threshold relates to adequate to poor. It was agreed that the 10% maximum cover for Trout Spawning waters between the months of May and September would be included and referred to for SoE and Policy Effectiveness monitoring purposes only. The no measureable change limit would apply to consented activities. Footnotes confirming this were added to the draft Schedule D.

A draft Schedule D has been completed according to these specifications for circulation to both parties for final agreement and sign off. We would like to send this out ASAP to confirm the process with the Court.

Regards
Kate McArthur and Clare Barton

APPENDIX TWO

Proposed Track Changes to Chapter 13

Chapter 13 - Track Changes - Marked up from Court Assisted Mediation with further amendments acceptable to MWRC

These track changes are what MWRC considers are the matters agreed or nearly agreed on the basis of memoranda filed in mediation between 1 June and October 2011.

PLEASE NOTE:

- These track changes have no formal status unless consent orders have been signed off by the Environment Court (Chapter 17 only as at 3 March 2011).
- The base document for these files is the *Proposed One Plan as Amended by Decisions*.

Track changes considered by MWRC to be agreed are identified by yellow highlight. Track changes showing proposed further amendments acceptable to MWRC are highlighted in light green highlight. Track changes showing proposed further amendments proposed by MWRC on 17 April 2012 are highlighted in turquoise. Greyed out Māori translations need to be updated once amendments are confirmed by consent order.

13 Discharges to Land and Water

13.1A Objectives

Objective 13-1: ~~Regulation~~ Management of *discharges*^ to *land*^ and *water*^

The ~~regulation~~ management of *discharges*^ onto or into *land*^ (including those that enter *water*^) or directly into *water*^ in a manner that:

(a) Safeguards the life supporting capacity of water and advances the achievement of ~~has regard to~~ the Values and management objectives in Schedule AB,

(b) ~~has regard to~~ provides for the objectives and policies of Chapter 6 as they relate to surface *water*^ and groundwater quality, and

(c) where a *discharge*^ is onto or into *land*^, avoids, remedies or mitigates adverse *effects*^ on surface *water*^ or groundwater.

Comment [BG1]: Fonterra New Zealand Limited, Federated Farmers of New Zealand and Horticulture New Zealand reserved their position s on changes to Objective 13-1 [See clause 3, FINAL MEDIATION MEMORANDUM ON SURFACE WATER QUALITY CHAPTER 13, 26 October 2011]

13.1 Policies

Policy 13-1: Consent decision-making for *discharges*^ to *water*^

When making decisions on *resource consent*^ applications, and setting consent *conditions*^, for *discharges*^ of *water*^ or *contaminants*^ into *water*^, the Regional Council must specifically consider ~~have regard to~~:

(a) the objectives and policies 6-1 to 6-5 and 6-8 of Chapter 6 ~~regarding the Schedule AB Values and the *water*^ quality targets in Schedule D~~,

and have regard to:

(b) avoiding *discharges*^ which contain any persistent *contaminants*^ that are likely to accumulate in a *water body*^ or its *bed*^,

(c) the appropriateness of adopting the *best practicable option*^ to prevent or minimise adverse *effects*^ in circumstances where:

(i) it is difficult to establish *discharge*^ parameters for a particular *discharge*^ that give effect to the management approaches for *water*^ quality and *discharges*^ set out in Chapter 6, or

(ii) the potential adverse *effects*^ are likely to be minor, and the costs associated with adopting the *best practicable option*^ are small in comparison to the costs of investigating the likely *effects*^ on *land*^ and *water*^, and

(d) the objectives and policies of Chapters 3, 4, 7, 10 and 11A to the extent that they are relevant to the *discharge*^.

Policy 13-2: Consent decision-making for *discharges*^ to *land*^

When making decisions on *resource consent*^ applications, and setting consent *conditions*^, for *discharges*^ of *contaminants*^ onto or into *land*^ the Regional Council must have regard to:

(a) the objectives and policies of Chapter 6 regarding the management of groundwater quality and *discharges*^,

(b) where the *discharge*^ may enter surface *water*^ or have an adverse *effect*^ on surface *water*^ quality, the degree of compliance with the approach for managing surface *water*^ quality set out in Chapter 6,

(c) avoiding as far as reasonably practicable any adverse *effects*^ on any sensitive receiving *environment*^ or potentially incompatible *land*^ uses, in particular any residential buildings, educational facilities, churches, marae, public areas, *infrastructure*^ and other physical resources of regional or national importance identified in Policy 3-1, *wetlands*^, surface *water bodies*^ and the *coastal marine area*^,

(d) the appropriateness of adopting the *best practicable option*^ to prevent or minimise adverse *effects*^ in circumstances where:

(i) it is difficult to establish *discharge*^ parameters for a particular *discharge*^ that give effect to the management approaches for *water*^ quality and *discharges*^ set out in Chapter 6,

(ii) the potential adverse *effects*^ are likely to be minor, and the costs associated with adopting the *best practicable option*^ are small in comparison to the costs of investigating the likely *effects*^ on *land*^ and *water*^,

(e) avoiding *discharges*^ which contain any persistent *contaminants*^ that are likely to accumulate in the soil or groundwater, and

(f) the objectives and policies of Chapters 3, 4, 7, 10 and 11A to the extent that they are relevant to the *discharge*^.

Comment [BG2]: This change was shown in the Memorandum, but not underlined or highlighted [See APPENDIX 1, FINAL MEDIATION MEMORANDUM ON SURFACE WATER QUALITY CHAPTER 13, 26 October 2011]

Policy 13-2A: Industry-based standards

The Regional Council will examine on an on-going basis relevant industry-based standards (including guidelines and codes of practice), recognising that such industry based standards generally represent current best practice, and may accept compliance with those standards as being adequate to avoid, remedy or mitigate adverse *effects*^ to the extent that those standards address the matters in Policies 13-1, ~~and~~ 13-2, 13-2B and 13-2C.

Policy 13-2B: Options for *discharges*^ to surface *water*^ and *land*^

When applying for consents and making decisions on consent applications for *discharges*^ of *contaminants*^ into *water*^ or onto or into *land*^, the opportunity to utilise alternative *discharge*^ options, or a mix of *discharge*^ regimes, for the purpose of mitigating adverse *effects*^ ~~where reasonably practicable~~, and applying the best practicable option, must be considered, including but not limited to:

(a) discharging *contaminants*^ onto or into *land*^ as an alternative to discharging *contaminants*^ into *water*^,

(b) withholding from discharging *contaminants*^ into surface *water*^ at times of low flow, and

(c) adopting different treatment and *discharge*^ options for different receiving *environments*^ or at different times (including different flow regimes or levels in surface *water bodies*^).

Policy 13-2C: Management of new and existing *dairy farming* land*^ uses

When making decisions on *resource consent*^ applications, and setting consent *conditions*^, for *dairy farming** as a *land*^ use, the Regional Council must:

(a) give effect ~~have regard~~ to Policy 6-7~~.~~.

(b) seek to exclude cattle from the following waterbodies within the *water management sub-zones** listed in Table 13.1:

(i) a wetland or lake that is a rare habitat***,** threatened habitat***** or at risk habitat*.

(ii) a river that is permanently flowing, or is intermittently flowing with an active *bed** width greater than 1 metre ~~(when measured as an average across the property)~~ at any time the bed contains water.

For the purposes of this policy "exclude" means stock access must be restricted to the *waterbody** by any permanent or temporary fence or barrier or any natural barrier. Where there are more than 1350 stock movements per week across a river identified in (b)(ii) then a culvert or bridge shall be installed.

Existing *Dairy Farming* land*^ uses

~~(b)~~(c) ensure that nitrogen leaching ~~from the *land*^ is minimised as far as reasonably practicable~~ for existing *dairy farming** land^ uses~~,~~ does not exceed the nitrogen leaching maximums ~~rates for each *LUC** class of *land*^~~ as set out in Table 13.2. Where achievement of the Table 13.2 nitrogen leaching rate maximum is not possible then:

(i) the nitrogen leaching loss from the farm must be based on the actual demonstrated nitrogen leaching loss for the 2011 year; and

(ii) the nitrogen leaching loss limit calculated under (c)(i) shall be reduced through conditions of consent to meet the Table 13.2 nitrogen leaching rate maximum in the following manner:

(A) In year two there must be a 33% reduction in the difference between the loss limit set under (c)(i) and the *nitrogen leaching maximum** set out in Table 13.2 or a reduction of 2kg/N/ha whichever is the greater.

(B) In year three there must be a further 33% reduction in the difference between the loss limit set under (c)(i) and the *nitrogen leaching maximum** set out in Table 13.2 or a reduction of 2kg/N/ha whichever is the greater.

(C) In year four the Table 13.2 nitrogen leaching rate must be achieved.

(d) ~~an exception to (c) may be made in circumstances where the land contains 50% or higher of *LUC** Classes IV to VIII and has an average rainfall per annum in excess of 1500mm.~~

~~In relation to the exception identified in (d)(i) consent conditions will require:~~

~~(i) best management practices to be in place to minimise the loss of nitrogen, phosphorous, faecal contamination and sediment.~~

(ii) ~~any losses of nitrogen, phosphorous, faecal contamination and sediment which cannot be avoided, remedied or mitigated are offset or mitigated including by way of environmental compensation offered by the applicant.~~

New Dairy Farming* *land*^ uses

~~(c)~~(e) ensure that nitrogen leaching from new *dairy farming** *land*^ uses does not exceed nitrogen leaching rates based on the *natural capital** of each *LUC** class of *land*^ used for *dairy farming**~~, and~~.

~~(d) ensure that dairy cattle are excluded from surface *water*^ as far as reasonably practicable.~~

Restricted Discretionary Activity New and Existing *Dairy Farming** *land*^ uses (considered under Rules 13-1A and 13-1C)

(f) In relation to Rules 13-1A and 13-1C reasonably practicable farm management practices for minimising nutrient leaching, faecal contamination and sediment losses from the *land*^ include but are not limited to:

(i) Cut and carry;

(ii) Intensive forage cropping;

(iii) Herd homes and effluent capture;

(iv) Winter feed pads and effluent capture;
(v) Low nitrogen feeds;
(vi) Replace nitrogen fertiliser with equivalent supplements;
(vii) Graze animals off-farm over the winter months;
(viii) Reducing stock rate;
(ix) Best management (amount and timing and land area) of nitrogen fertiliser inputs;
(x) Management of infrastructure (e.g. reducing leaks in effluent irrigation systems and lining of effluent ponds and feedpads);
(xi) Nitrogen inhibitors;
(xii) Non-pastoral land use; and
(xiii) Creation of wetland and riparian zones.

(g) The implementation of reasonably practicable farm management practices to reduce nitrogen leaching must achieve the nitrogen leaching rates for each *LUC** class of *land*^ as set out in Table 13.2 no later than the first ten year anniversary of the common catchment expiry dates set in Table 11A-1.

Policy 13-3: Management of *discharges*^ of *domestic wastewater

When making decisions on *resource consent*^ applications, and setting consent *conditions*^, for on-site *discharges*^ of *domestic wastewater**, the Regional Council must generally ensure that the *discharge*^ is in accordance with the Manual for On-site Wastewater Systems Design and Management (Horizons Regional Council 2010).

For *discharges*^ that are not in accordance with the Manual for On-site Wastewater Systems Design and Management (Horizons Regional Council 2010) the Regional Council must make decisions on *resource consent*^ applications, and set consent *conditions*^, for on-site *discharges*^ of *domestic wastewater**, to ensure that:

(a) the *site** is suitable for the intended on-site wastewater management system,

(b) the *discharge*^ does not result in actual or potential contamination of:

(i) groundwater at any point of abstraction utilised for irrigation, stock or domestic drinking *water*^,
(ii) surface *water bodies*^,
(iii) stormwater drains,
(iv) *artificial watercourses**, or
(v) neighbouring *properties**,

(c) the *discharge*^ does not constitute a public health threat,

(d) the *discharge*^ does not cause any offensive or objectionable odour beyond the *property** boundary, and

(e) a sufficient area of *land*^ is set aside as a reserve disposal area.

Policy 13-4: Monitoring requirements for consent holders

Point source *discharges*^ of *contaminants*^ to *water*^ must generally be subject to the following monitoring requirements:

(a) the regular monitoring of *discharge*^ volumes on *discharges*^ smaller than 100 m^3/day and making the records available to the Regional Council on request,

(b) the installation of a pulse-count capable meter in order to monitor the volume *discharged*^ for *discharges*^ of 100 m^3/day or greater,

(c) the installation of a Regional Council compatible telemetry system on *discharges*^ of 300 m^3/day or greater, and

(d) monitoring and reporting on the quality of the *discharge*^ at the point of *discharge*^ before it enters surface *water*^ and the quality of the receiving *water*^ upstream and downstream of the point of *discharge*^ (after *reasonable mixing**) may also be required. This must align with the Regional Council's environmental monitoring programme where reasonably practicable to enable cumulative impacts to be measured.

13.2 Rules - Agricultural Activities

Table 13.1 sets out the target *Water Management Sub-zones** where management of existing *dairy farming** *land*^ use activities must be specifically controlled.

Table 13.1 *Water Management Sub-zones**

Catchment	*Water Management Sub-zone**	*Date the rules of the Plan come into force in relation to Rule 13-1*
Mangapapa	Mangapapa Mana_9b	1 July 2012
Waikawa	Waikawa West_9a Waikawa West_9b	1 July 2012
Other south-west catchments (Papaitonga)	Lake Papaitonga West_8	1 July 2012
Mangatainoka	Upper Mangatainoka Mana_8a Middle Mangatainoka Mana_8b Lower Mangatainoka Mana_8c Makakahi Mana_8d	1 July 2013
Other coastal lakes	Northern Manawatu Lakes West_6	1 July 2013
Upper Manawatu above Hopelands	Upper Manawatu Mana_1a Mangatewainui Mana_1b Mangatoro Mana_1c Weber-Tamaki Mana_2a Mangatera Mana_2b Upper Tamaki Mana_3 Upper Kumeti Mana_4 Tamaki-Hopelands Mana_5a Lower Tamaki Mana_5b Lower Kumeti Mana_5c Oruakeretaki Mana_5d Raparapawai Mana_5e	1 July 2014
~~Waikawa~~	~~Waikawa West_9a~~ ~~Waikawa West_9b~~	
Manawatu above gorge	Hopelands-Tiraumea Mana_6 Upper Gorge Mana_9a Mangaatua Mana_9c	1 July 2014

Comment [PT3]: Note that this table does not include any new catchmetns or water management sub-zones, it just re-orders them by date.

Catchment	*Water Management Sub-zone**	*Date the rules of the Plan come into force in relation to Rule 13-1*
~~Other south-west catchments (Papaitonga)~~	~~Lake Papaitonga West_8~~	
~~Other coastal lakes~~	~~Northern Manawatu Lakes West_6~~	

Comment [PT3]: Note that this table does not include any new catchmetns or water management sub-zones, it just re-orders them by date.

Table 13.2 sets out the *cumulative nitrogen leaching maximum** for the *land^* used for *dairy farming** within each specified *land use capability class**.

Table 13.2 *Cumulative nitrogen leaching maximum** by *Land Use Capability Class**

*LUC** I	*LUC** II	*LUC** III	*LUC** IV	*LUC** V	*LUC** VI	*LUC** VII	*LUC** VIII
30	27	24	18	16	15	8	2

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-1 Existing *dairy farming** *land^* use activities	The use of *land^* pursuant to s9(2) RMA for *dairy farming** that was existing as at 1 July 2010 in *the Water Management Sub-zones** listed in Table 13.1 and any of the following *discharges^* pursuant to ss15(1) or 15(2A) RMA associated with *dairy farming**: (a) the *discharge^* of *fertiliser** onto or into *land^* (b) the *discharge^* of *contaminants^* onto or into *land^* from (i) the preparation, storage, use or transportation of stock feed on *production land^* (ii) the use of a *feedpad** (c) the *discharge^* of grade Aa~~, Ab, Ba or~~	Controlled	(a) A *nutrient management plan** must be prepared from the date specified in Table 13.1 ~~for the *land^*, complied with~~ and provided annually to the Regional Council. The activity must be operated in accordance with the *nutrient management plan**. (b) The *nutrient management plan** referred to in condition (a) above, must demonstrate that the nitrogen leaching loss will not exceed the *cumulative nitrogen leaching maximum** as set out in Table 13.2 except that: (i) As at the date listed in Table 13.2 (i.e. only the first time an application is made) the nitrogen leaching loss limit can be based on the actual demonstrated nitrogen leaching loss from the farm in the year 2011. This limit will then be reduced in the following manner: 1. In year two there must be either a 33%	Control is reserved over: (a) the implementation of the *nutrient management plan** ~~reasonably practicable farm management practices for minimising nutrient leaching, faecal contamination and sediment losses from the *land^*~~ (b) compliance with the specified requirements referred to in the conditions of Rule 13-6 and the matters ~~of~~ over which control is reserved in Rule 13-6 including a requirement to seal effluent storage and treatment facilities (including sumps and ponds) (c) compliance with the specified requirements referred to in the

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	~~Bb~~ *biosolids*^, *soil conditioners** or *compost** onto or into *production land*^ (d) the *discharge*^ of *poultry farm litter** onto or into *production land*^ (e) the *discharge*^ of farm *animal effluent** onto or into *production land*^ (or upon expiry or surrender of any existing consent for that *discharge*^) including: (i) effluent from dairy sheds and *feedpads** (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA. Where the existing *dairy farming** land use is located partly on land within one or more of the *Water Management Sub-zones** listed in Table 13.1 and partly on other *land*^ this rule only applies if at least 20% of the *dairy farming** land use is located on *land*^ within the listed *Water Management Sub-zones**.		reduction in the difference between the loss limit set in year one and the *nitrogen leaching maximum** set out in Table 13.2 or a reduction of 2kg/N/ha whichever is the greater. 2. In year three there must be a further 33% reduction in the difference between the loss limit set in year one and the *nitrogen leaching maximum** set out in Table 13.2 or a reduction of 2kg/N/ha whichever is the greater. 3. By year four the nitrogen leaching loss will not exceed the *cumulative nitrogen leaching maximum** as set out in Table 13.2. ~~(b)~~(c) ~~Dairy~~ Cattle must be excluded from: *(i)wetlands*^ and *lakes*^ that are a *rare habitat** or *threatened habitat**, *and* *(ii)*the *beds*^ of *rivers*^ that are permanently flowing or have an *active bed** width greater than 1 m, other than at any specific location where access is required for ~~dairy~~ cattle to cross the *river*^ in which case (~~d~~e) applies. ~~(c)~~(d) Where there will be ~~*Rivers*^ that are permanently flowing or have an *active bed** width greater than 1 m, that are crossed by~~ more than 1350 ~~dairy~~ cattle movements per week across any river that is permanently flowing or has an active bed width greater than 1m, the cattle must cross via a bridge or culvert. and run-off originating from the carriageway of the bridge or culvert must be *discharged*^ onto or into *land*^. ~~(d)~~(e) The *discharge*^ of *fertiliser** onto or into *land*^ and any ancillary *discharge*^ of *contaminants*^ into air	conditions of Rules 13-2, 13-3, 13-4 and 13-4B (d) avoiding, remedying or mitigating the effects of odour, dust, *fertiliser** drift or effluent drift (e) provision of information including the *nutrient management plan** (f) duration of consent (g) review of consent *conditions*^ (h) compliance monitoring. *Resource consent*^ applications under this *rule*^ will not be notified and written approval of affected persons will not be required (notice of applications need not be *served*^ on affected persons).

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			must comply with the *conditions*^ of Rule 13-2. ~~(e)~~(f)The *discharge*^ of *contaminants*^ onto or into *land*^ from: (i) the preparation, storage, use or transportation of stock feed on *production land*^, or (ii) the use of a *feedpad** and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^ of Rule 13-3. ~~(f)~~(g)The *discharge*^ of grade Aa *biosolids**, *soil conditioners** or *compost** onto or into *production land*^ and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^ of Rule 13-4. ~~The *discharge*^ of grade Ab, Ba or Bb *biosolids** onto or into *production land*^ and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^ of Rule 13-4A.~~ ~~(g)~~(h)The *discharge*^ of *poultry farm litter** onto or into *production land*^ and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^ of Rule 13-4B. ~~(h)~~(i)The *discharge*^ of farm *animal effluent** onto or into *production land*^ including: (i) effluent from dairy sheds and *feedpads** (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^, standards and terms of Rule 13-6.	
13-1A Existing *dairy farming** *land*^ use	The use of *land*^ pursuant to s9(2) RMA for *dairy farming** that was existing as at 1 July	Restricted Discretionary		Discretion is restricted to: (a) preparation of a *nutrient management*

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
activities not complying with Rule 13-1	2010 in *the Water Management Sub-zones** listed in Table 13.1, and any of the following *discharges*^ pursuant to ss15(1) or 15(2A) RMA associated with *dairy farming**, that do not comply with one or more of the *conditions*^, standards and terms of Rule 13-1: (a) the *discharge*^ of *fertiliser** onto or into *land*^ (b) the *discharge*^ of *contaminants*^ onto or into *land*^ from (i) the preparation, storage, use or transportation of stock feed on *production land*^ (ii) the use of a *feedpad** (c) the *discharge*^ of grade Aa~~, Ab, Ba or Bb~~ *biosolids*^, *soil conditioners** or *compost** onto or into *production land*^ (d) the *discharge*^ of *poultry farm litter** onto or into *production land*^ (e) the *discharge*^ of farm *animal effluent** onto or into *production land*^ (or upon expiry or surrender of any existing consent for that *discharge*^) including: (i) effluent from dairy sheds and *feedpads** (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA.			*plan** for the *land*^ (b) the implementation of reasonably practicable farm management practices for minimising nutrient leaching, faecal contamination and sediment losses from the *land*^ (c) measures to exclude dairy cattle from *wetlands*^ and *lakes*^ that are a *rare habitat** or *threatened habitat**, and *rivers*^ that are permanently flowing or have an *active bed** width greater than 1 m (d) the bridging or culverting of *rivers*^ that are permanently flowing or have an *active bed** width greater than 1 m that are crossed by dairy cattle (e) the matters referred to in the *conditions*^ of Rules 13-2, 13-3, 13-4~~, 13-4A~~ and 13-4B (f) the matters referred to in the conditions of Rule 13-6 ~~(f)~~(g) the matters referred to in the *conditions*^ of Rule 13-6 and the matters of control in Rule 13-6 ~~(g)~~(h) avoiding, remedying or mitigating the effects of odour, dust, *fertiliser** drift or effluent drift ~~(h)~~(i) provision of information including the annual *nutrient management plan** ~~(i)~~(j) duration of consent ~~(j)~~(k) review of consent *conditions*^ ~~(k)~~(l) compliance monitoring.
13-1B New *dairy*	The use of *land*^ pursuant to s9(2) RMA for	Controlled	(a) A *nutrient management plan** must be prepared for	Control is reserved over:

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
farming land^* use activities	any conversion to *dairy farming** that occurs after 1 July 2010 anywhere within the Region and any of the following *discharges^* pursuant to ss15(1) or 15(2A) RMA associated with *dairy farming**: (a) the *discharge^* of *fertiliser** onto or into *land^* (b) the *discharge^* of *contaminants^* onto or into *land^* from (i) the preparation, storage, use or transportation of stock feed on *production land^* (ii) the use of a *feedpad** (c) the *discharge^* of grade Aa~~, Ab, Ba or Bb~~ *biosolids^*, *soil conditioners** or *compost** onto or into *production land^* (d) the *discharge^* of *poultry farm litter** onto or into *production land^* (e) the *discharge^* of farm *animal effluent** onto or into *production land^* including: (i) effluent from dairy sheds and *feedpads** (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary *discharge^* of *contaminants^* into air pursuant to ss15(1) or 15(2A) RMA.		the *land^*~~, complied with~~ and provided annually to the Regional Council. The activity must be operated in accordance with the *nutrient management plan**. (b) The *nutrient management plan** must demonstrate compliance with the *cumulative nitrogen leaching maximum** as set out in Table 13.2 for the *land^* used for *dairy farming**. (c) ~~Dairy c~~Cattle must be excluded from: (i) *wetlands^* and *lakes^* that are a *rare habitat** or *threatened habitat**, *and* (ii) the *beds^* of *rivers^* that are permanently flowing or have an *active bed** width greater than 1 m, other than at any specific location where access is required for ~~dairy~~ cattle to cross the *river^* in which case (d) applies. (d) Where there will be ~~*Rivers^ that are permanently flowing or have an active bed* width greater than 1 m, that are crossed by~~ more than 1350 ~~dairy~~ cattle movements per week across any river that is permanently flowing or has an active bed width greater than 1 m, the catlle must cross via a bridge or culvert, ~~must be bridged or culverted~~ and run-off originating from the carriageway of the bridge or culvert must be *discharged^* onto or into *land^*. (e) The *discharge^* of *fertiliser** onto or into *land^* and any ancillary *discharge^* of *contaminants^* into air must comply with the *conditions^* of Rule 13-2. (f) The *discharge^* of *contaminants^* onto or into *land^* from: (i) the preparation, storage, use or transportation of stock feed on *production land^*, or (ii) the use of a *feedpad** and any ancillary *discharge^* of *contaminants^* into air must comply with the *conditions^* of Rule 13-3.	(a) the implementation of farm management practices to maintain compliance with the *cumulative nitrogen leaching maximum** for the *land^* (b) the implementation of reasonably practicable farm management practices for minimising nutrient leaching, faecal contamination and sediment losses from the *land^* (c) compliance with the specified requirements referred to in the conditions of Rule 13-6 and the matters ~~of~~ over which control is reserved in Rule 13-6 (d) compliance with the specified requirements referred to in the conditions of Rules 13-2, 13-3, 13-4 and 14-4B ~~(d)~~(e)avoiding, remedying or mitigating the effects of odour, dust, *fertiliser** drift or effluent drift ~~(e)~~(f)provision of information including the *nutrient management plan** ~~(f)~~(g)duration of consent ~~(g)~~(h)review of consent *conditions^* ~~(h)~~(i)compliance monitoring. *Resource consent^* applications under this *rule^* will not be notified and written approval of affected persons will not be required (notice of applications need not be *served^* on affected persons).

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(g) The *discharge*^ of grade Aa *biosolids**, *soil conditioners** or *compost** onto or into *production land*^ and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^ of Rule 13-4. ~~(h) The *discharge*^ of grade Ab, Ba or Bb *biosolids** onto or into *production land*^ and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^ of Rule 13-4A.~~ ~~(i)~~(h)The *discharge*^ of *poultry farm litter** onto or into *production land*^ and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^ of Rule 13-4B. ~~(j)~~(i)The *discharge*^ of farm *animal effluent** onto or into *production land*^ including: (i) effluent from dairy sheds and *feedpads** (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary *discharge*^ of *contaminants*^ into air must comply with the *conditions*^, standards and terms of Rule 13-6.	
13-1C New *dairy farming** *land*^ use activities not complying with Rule 13-1B	The use of *land*^ pursuant to s9(2) RMA for *dairy farming** that occurs after 1 July 2010 anywhere within the Region, and any of the following *discharges*^ pursuant to ss15(1) or 15(2A) RMA associated with *dairy farming**, that do not comply with one or more of the *conditions*^, standards and terms of Rule 13-1B: (a) the *discharge*^ of *fertiliser** onto or into *land*^ (b) the *discharge*^ of *contaminants*^ onto or into *land*^ from	Restricted Discretionary		Discretion is restricted to: (a) preparation of a *nutrient management plan** for the *land*^ (b) the implementation of reasonably practicable farm management practices for maintaining compliance with the *cumulative nitrogen leaching maximum** for the *land*^ (c) the implementation of reasonably practicable farm management practices for minimising nutrient leaching, faecal contamination and sediment losses

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	(i) the preparation, storage, use or transportation of stock feed on *production land*^ (ii) the use of a *feedpad**			from the *land*^
	(c) the *discharge*^ of grade ~~Aa, Ab, Ba or Bb~~ *biosolids*^, *soil conditioners** or *compost** onto or into *production land*^			(d) measures to exclude dairy cattle from *wetlands*^ and *lakes*^ that are a *rare habitat** or *threatened habitat**, and *rivers*^ that are permanently flowing or have an *active bed** width greater than 1 m
	(d) the *discharge*^ of *poultry farm litter** onto or into *production land*^			(e) the bridging or culverting of *rivers*^ that are permanently flowing or have an *active bed** width greater than 1 m that are crossed by dairy cattle
	(e) the *discharge*^ of farm *animal effluent** onto or into *production land*^ including: (i) effluent from dairy sheds and *feedpads** (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA.			(f) the matters referred to in the *conditions*^ of Rules 13-2, 13-3, 13-4, ~~13-4A~~ and 13-4B (g) the matters referred to in the *conditions*^ of Rule 13-6 and the matters of control in Rule 13-6 (h) avoiding, remedying or mitigating the effects of odour, dust, *fertiliser** drift or effluent drift (i) provision of information including the annual *nutrient management plan** (j) duration of consent (k) review of consent *conditions*^ (l) compliance monitoring.
13-2 *Fertiliser**	The *discharge*^ of *fertiliser** onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA, except where the *discharge*^ is undertaken in association with a use of *land*^ controlled by Rules 13-1 to 13-1C.	Permitted	(a) There must be no direct *discharge*^ of *fertiliser** into any surface *water body*^ or its *bed*^ or *artificial watercourse** other than as provided for under (ba). (ba) All reasonable measures must be taken to prevent: (i) any *discharge*^ of *fertiliser** within the *bed*^ of a *river*^ that is permanently flowing or has an *active bed** width greater than 2 m, or any *lake*^ or *wetland*^ that has an area of 1 ha or more	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(ii) any *discharge*^ into any *rare habitat**, *threatened habitat** or *at-risk habitat**, except for the purpose of enhancing such habitats. Under condition (ba) "reasonable measures" includes the use of GPS technology. (b) For *production land*^ the *fertiliser** must be *discharged*^ in accordance with the Code of Practice for Nutrient Management (New Zealand Fertiliser Manufacturers' Research Association, 2007). (c) Where nitrogen *fertiliser** is *discharged*^ onto *land*^ in excess ~~of an average rate~~ of 60 kgN/ha/year averaged across the ~~grazed or cropped area of a~~ whole farm area or in excess of an average rate of 150 kgN/ha/year on any application area a nutrient budget undertaken using the OVERSEER® model, which takes into account all other sources of nitrogen, and covers and identifies the whole farm area including details of individual blocks and which is designed to minimise nitrogen leaching rates, must be used to plan and carry out the *fertiliser** *discharge*^ and be made available to the Regional Council upon request. If a *nutrient management plan** is required under Rules 13-1, 13-1A, 13-1B or 13-1C then the nutrient budget required by this *condition*^ must be consistent with it and the activity must be carried out in accordance with it. (d) The *discharge*^ must not result in any offensive or objectionable odour or *fertiliser** drift beyond the *property** boundary.	
13-3 Stock feed including *feedpads**	The *discharge*^ of *contaminants*^ onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA from: (a) the preparation, storage, use or transportation of stock feed on	Permitted	(a) All silage (excluding maize silage) storage pits that have an area greater than 500 m^2 and all *feedpads**, must be sealed to restrict seepage of *contaminants*^. The permeability of the sealing layer must not exceed $1x10^{-9}$ m/s.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	production land^, or (b) the use of a *feedpad** and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA, except where the *discharge*^ is undertaken in association with a use of *land*^ controlled by Rule 13-1 to 13-1C.		(b) All areas used for storing stock feed, for *feedpads** or for otherwise feeding stock (including feeding silage) must be located and managed in a manner that ensures at all times when such areas are in use: (i) run-off from the area into surface *water*^ or *artificial watercourses**, is prevented (ii) run-off from the surrounding catchment is prevented from entering the area. (c) All areas used for storing stock feed, for *feedpads** or for otherwise feeding stock (including feeding silage) must comply with the following separation distances: (i) 50 m from *rare habitats**, *threatened habitats** and *at-risk habitats**, (ii) 20 m from *bores**, surface *water bodies*^, artificial watercourses*, and the *coastal marine area*^, and (iii) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (d) All *animal effluent** collected from *feedpads** must be treated and *discharged*^ in accordance with Rule 13-6. (e) The *discharge*^ must not result in any offensive or objectionable odour or dust beyond the *property** boundary.	
13-4 *Discharges*^ of *grade Aa biosolids**, ~~*soil conditioners**~~ and *compost** to *production land*^	The *discharge*^ of *grade Aa biosolids**, ~~*soil conditioners**~~ or *compost** onto or into *production land*^ pursuant to ss15(1) or 15(2A) RMA, and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA, except where the *discharge*^ is undertaken in association with a use of *land*^ controlled by Rules 13-1 to 13-1C.	Permitted	(a) There must be no direct *discharge*^ or run-off into any surface *water body*^ or its *bed*^ or *artificial watercourse**. (c) For ~~*soil conditioners**~~ and *compost** the material must not contain any human or animal pathogens, or any *hazardous substances**. (ca) For *grade Aa biosolids** the *discharge*^ must comply with the requirements for *grade Aa biosolids** as included with Chapters 4 and 7 of Volume 1 and Chapters 8 (including monitoring requirements) and 9 of Volume 2 of the Guidelines for the Safe Application	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			of Biosolids to Land in New Zealand (New Zealand Water and Waste Association, August 2003). (d) The *discharge*^ must comply with the following separation distances: (iii) 50 m from *rare habitats**, *threatened habitats** and *at-risk habitats** (iv) 20 m from *bores**, surface *water bodies*^, *artificial watercourses** and the *coastal marine area*^ (v) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (e) A nutrient budget undertaken using the OVERSEER® model, which takes into account all other sources of nitrogen and which is designed to minimise nitrogen leaching rates, must be used to plan and carry out the *discharge*^ of the *grade Aa biosolids**~~, *soil conditioner**~~ or *compost**. If a *nutrient management plan** is required under Rules 13-1 to 13-1C then the nutrient budget required by this *condition*^ must be consistent with it and the activity must be carried out in accordance with it. (f) The *discharge*^ must not result in any offensive or objectionable odour or dust beyond the *property** boundary. (g) The discharger must keep the following records: (i) a daily record of the *discharge*^ volume and location (ii) a monthly (or more frequent) analysis of the nitrogen concentration of a *discharge*^ sample and make these records available to the Regional Council upon request.	
13-4A Grade Ab, Ba or Bb *biosolids**	The *discharge*^ of grade Ab, Ba or Bb *biosolids** onto or into *production land*^ pursuant to ss15(1) or 15(2A) RMA, and	Restricted Discretionary	(a) There must be no direct *discharge*^ or run-off into any surface *water body*^ or its *bed*^ or *artificial watercourse**.	Discretion is reserved over: (a) the rate of *discharge*^ and frequency of *discharge*^ to control nutrient and

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(2) or 15(2A) RMA, except where the *discharge*^ is undertaken in association with a use of *land*^ controlled by Rules 13-1 to 13-1C.		(b) The material must have undergone stabilisation processes to achieve at least B grade as defined by the Guidelines for the Safe Application of Biosolids to Land in New Zealand (New Zealand Water and Waste Association, August 2003). *Hazardous substances** must not exceed b grade limits as given by the Guidelines for the Safe Application of Biosolids to Land in New Zealand (New Zealand Water and Waste Association, August 2003). (c) The *discharge*^ must comply with the following separation distances: (i) 150 m from residential buildings, public places and amenity areas where people congregate, education facilities and public roads (ii) 50 m from *property** boundaries (iii) 50 m from *rare habitats*, threatened habitats** and *at-risk habitats** (iv) 20 m from *bores**, surface *water bodies*^, *artificial watercourses** and the *coastal marine area*^ (v) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (d) A nutrient budget undertaken using the OVERSEER® model, which takes into account all other sources of nitrogen and which is designed to minimise nitrogen leaching rates, must be used to plan and carry out the *biosolids** *discharge*^. If a *nutrient management plan** is required under Rules 13-1 to 13-1C then the nutrient budget required by this *condition*^ must be consistent with it and the activity must be carried out in accordance with it. (e) The *discharge*^ must not result in any offensive or objectionable odour or dust beyond the *property** boundary.	contaminant loading rates (b) maintenance of vegetative cover in the area of *discharge*^ (c) avoiding, remedying or mitigating the effects of odour or dust (d) contingency measures, including for events of mechanical failure and prolonged wet weather (e) monitoring and information requirements (f) duration of consent (g) review of consent *conditions*^, and (h) compliance monitoring.
13-4B	The *discharge*^ of *poultry farm litter** or *pig*	Permitted	~~(a) The *poultry farm litter** must be immediately cultivated~~	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
Discharges^ of *poultry farm litter** or *pig farm litter** and associated temporary stockpiling	*farm litter** and associated stockpiling onto or into *production land*^ pursuant to ss15(1) or 15(2A) RMA and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA, except where the *discharge*^ is undertaken in association with a use of *land*^ controlled by Rules 13-1 to 13-1C.		~~into the soil.~~ (b) The rate of *discharge*^ must be no greater than 150 kgN/ha/year in any 12 month period and must not exceed 60 kgN/ha in any 24 hour period. (c) There must be no direct *discharge*^ or run-off into any surface *water body*^ or its *bed*^ or *artificial watercourse**. (d) The *discharge*^ of *poultry farm litter** or *pig farm litter** and associated temporary stockpiling must comply with the following separation distances: (i) 150 m from any residential buildings, public places and amenity areas where people congregate, and education facilities ~~and public roads~~ (ii) 50 m from *property** boundaries (iii) 50 m from *rare habitats**, *threatened habitats** and *at-risk habitats** (iv) 20 m from *bores**, surface *water bodies*^, *artificial watercourses** and the *coastal marine area*^ (v) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (e) A nutrient budget undertaken using the OVERSEER® model, which takes into account all other sources of nitrogen and which is designed to minimise nitrogen leaching rates, must be used to plan and carry out the *discharge*^ of *poultry farm litter** or *pig farm litter**. If a *nutrient management plan** is required under Rules 13-1 to 13-1C then the nutrient budget required by this *condition*^ must be consistent with it and the activity must be carried out in accordance with it. (f) The *discharge*^ of *poultry farm litter** or *pig farm litter** and associated temporary stockpiling must not result in any offensive or objectionable odour or dust beyond the *property** boundary.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(g) All areas used for temporary stockpiling must be located and managed in a manner that ensures at all times when such areas are in use: (i) run-off from the area into *water*^ or an *artificial watercourse** is prevented (ii) run-off from the surrounding catchment is prevented from entering the area.	
13-5 Offal holes and farm dumps	The *discharge*^ of *contaminants*^ onto or into *production land*^ pursuant to ss15(1), 15(2) or 15(2A) RMA associated with an offal hole or farm dump, and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA, except where the *discharge*^ is undertaken in association with a use of *land*^ controlled by Rules 13-1 to 13-1C.	Permitted	(a) Only animal carcasses, or parts thereof, and *waste**, which is sourced from the *property** on which the offal hole or farm dump is located, can be disposed of. (b) The *waste** must not contain any *hazardous substances** or sewage. (c) There must be no *discharge*^ into any surface *water body*^ or its *bed*^ or *artificial watercourse**. (d) The lowest point of the offal hole or farm dump must be at least 1 m above the seasonally highest *water*^ table. (e) The offal hole or farm dump must comply with the following separation distances: (i) 150 m from any residential buildings, public places and amenity areas where people congregate, education facilities and public roads (ii) 10 m from *property** boundaries (iii) 50 m from *rare habitats**, *threatened habitats** and *at-risk habitats** (iv) 20 m from *bores**, surface *water bodies*^, *artificial watercourses** and the *coastal marine area*^ (vi) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (f) Measures must be used as necessary to minimise animal pests from entering the offal hole or farm dump.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(g) There must be no offensive or objectionable odour or dust beyond the *property** boundary.	
13-6 Farm *animal effluent** including effluent from dairy sheds, poultry farms and piggeries	The *discharge*^ of farm *animal effluent** onto or into *production land*^ pursuant to ss15(1) or 15(2A) RMA including: (a) effluent from dairy sheds and *feedpads** (b) effluent from piggeries (c) sludge from farm effluent ponds (d) poultry farm effluent and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA, except where the *discharge*^ is undertaken in association with a use of *land*^ controlled by Rules 13-1 to 13-1C.	Controlled	(a) There must be no direct *discharge*^ or run-off of effluent into a surface *water body*^ or its *bed*^ or *artificial watercourse**, including from effluent holding facilities. (b) The entire extent of effluent storage and treatment facilities (including sumps and ponds) must be sealed so as to restrict seepage of effluent where all or any part of the storage facility (including weeping walls, stone traps, sumps and ponds) is established or extended (including deepening) from the date the Plan is made *operative*^. The permeability of the sealing layer must not exceed $1x10^{-9}$ m/s subject to the following exceptions: (i) Where there are multiple ponds that make up the storage facility, but not all are being extended then only those that are being extended are required to be fully sealed, or (ii) The establishment or extension of sumps weeping walls or stone traps alone do not trigger a requirement for sealing of existing ponds (c) The *discharge*^ must comply with the following separation distances: (i) for *discharges*^ of piggery effluent, 150 m from any residential buildings, public places and amenity areas where people congregate, and education facilities ~~and public roads~~ (ii) for other *discharges*^, 20 m from any residential buildings, public places and amenity areas where people congregate, education facilities ~~and public roads~~ (iii) for all *discharges*^, 50 m from *rare habitats**, *threatened habitats** and *at-risk habitats**	Control is reserved over: (a) amount of effluent per *discharge*^ and frequency of *discharge*^ (aa) effluent *discharge*^ volume and rate in relation to the infiltration rate and the available *water*^ storage capacity of the soil (deferred irrigation) (ab) nitrogen loading in terms of kgN/ha/year and kgN/ha in any 24 hour period (ac) effluent storage facilities (including storage volume) to allow for the withholding of effluent during periods of prolonged wet weather when the soil moisture deficit is insufficient to allow for deficit effluent irrigation to occur (b) measures to manage the ponding of effluent on the *discharge*^ area (c) maintenance of vegetative cover on the *discharge*^ area (d) management of odours arising from the effluent *discharge*^ (f) contingency measures, including for events of mechanical failure and prolonged wet weather (g) duration of consent (h) review of consent *conditions*^, and (i) compliance monitoring. Except for new piggeries, *resource consent*^

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(iv) for all *discharges*^, 20 m from *bores**, surface *water bodies*^, *artificial watercourses** and the c*oastal marine area*^ (v) for all *discharges*^, 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (d) Stormwater from ancillary roof areas, and hardstand areas which do not hold animals, must not *discharge*^ to the effluent storage facility unless the volume calculation for the pond takes into consideration the input from ancillary roof and hardstand areas. (e) A nutrient budget, undertaken using the OVERSEER® model, which takes into account all other sources of nitrogen and which is designed to minimise nitrogen leaching rates, must be used to plan and carry out the *animal effluent* discharge*^. If a *nutrient management plan** is required under Rules 13-1 to 13-1C then the nutrient budget required by this *condition*^ must be consistent with it and the activity must be carried out in accordance with it. (f) There must be no offensive or objectionable odour, dust, or effluent drift beyond the *property** boundary.	applications under this *rule*^ will not be notified and written approval of affected persons will not be required (notice of applications need not be *served*^ on affected persons)

Rule Guide:

Some activities in *rare habitats*, threatened habitats** and *at-risk habitats** are regulated by Rule 12-6. Discharges from agricultural activities at other locations are regulated as follows:

(a) Discharges not covered by rules - Agricultural discharges pursuant to ss15(1) RMA that are not covered by the rules above are a discretionary activity under Rule 13-27.
(b) Activities that do not comply - Except for Rule 13-1B, activities pursuant to ss15(1) or 15(2A) RMA that do not comply with the permitted or controlled activity rules above are a discretionary activity under general Rule 13-27.

13.3 Rules - Discharges of Water

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-9 *Discharges^* of *water^* to *water^*	The *discharge^* of *water^* into *water^* pursuant to s15(1) RMA (excluding drainage *water^* which is regulated by Rules 15-9 and 15-10 and the *discharge^* of *water^* into *water^* that is part of the normal *operation** of a dam which is regulated by Rule 16-8 or Rule 16-9).	Permitted	(a) The *discharge^* must not cause or exacerbate the flooding of any neighbouring *property**. (b) The *discharge^* must not cause any scouring or erosion of any *land^* or *bed^* of a *water body^* beyond the point of *discharge^*. (c) The *discharge^* must not alter the natural course of any *water body^*. (d) The *discharge^* must not be to any *rare habitat**, *threatened habitat** or *at-risk habitat** (*discharges^* into these areas are *discretionary activities^* under Rule 12-6). (e) The *discharge^* must not, after *reasonable mixing**, change the natural temperature of the receiving *water^* by more than the maximum temperature or temperature change specified by the water quality targets for the *Water Management Sub-zone** listed in Schedule D.	

Rule Guide:

Activities that do not comply - Discharges of water pursuant to s15(1) RMA that do not comply with the permitted activity rule above are a discretionary activity under Rule 13-27.

13.4 Rules - Human effluent and *domestic wastewater**

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-10 Existing *discharges*^ of *domestic wastewater**	The *discharge*^ of *domestic wastewater** onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA from an on-site wastewater treatment and *land*^ application system and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA lawfully in existence at 1 July 2011. New and upgraded *discharges*^ of *domestic wastewater** are controlled by Rule 13-11.	Permitted	(a) The design flow as specified in section 3 of the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010) must be no greater than 2 m^3/d (2,000 litres per day). (b) The flow allowance used to calculate the system design flow must be no less than 145 litres per person per day where the *water*^ supply is provided by roof *water*^ collection, or no less than 180 litres per person per day for other sources of *water*^ supply. (c) The *discharge*^ must consist only of *contaminants*^ normally associated with domestic sewage and greywater. (d) There must be no direct *discharge*^ of wastewater to groundwater. (e) The *discharge*^ must comply with the following separation distances: (i) at least 20 m from any *bore** used for drinking *water*^ supply (ii) at least 20 m from surface *water bodies*^, *artificial watercourses** and the *coastal marine area*^. (f) The *discharge*^ must not cause any offensive or objectionable odour beyond the *property** boundary. (g) There must be no increase in the concentration of pathogenic organisms in any surface *water body*^ as a result of the *discharge*^. (h) The wastewater treatment and *land*^ application system must be maintained by a manufacturer-approved contractor in accordance with the supplier's	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			specifications or the requirements of the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010), whichever are the more stringent. All records of each *maintenance** action must be retained and made available for inspection by the Regional Council or its agents upon request.	
13-11 New and upgraded *discharges^* of *domestic wastewater**	The *discharge^* of *domestic wastewater** onto or into *land^* pursuant to ss15(1) or 15(2A) RMA and any ancillary *discharge^* of *contaminants^* into air pursuant to ss15(1) or 15(2A) RMA from a new or upgraded on-site wastewater treatment and *land^* application system which either: (a) is newly established after this *rule^* becomes *operative^*, or (b) involves the *upgrade** of a system that existed at the date that this *rule^* becomes *operative^*.	Permitted	(a) The activity must comply with conditions (a) to (g) of Rule 13-10. (b) All aspects of the wastewater treatment and *land^* application system, including soil assessment, design, installation and operation, must be in accordance with the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010). (c) Where the *property** within which the *discharge^* occurs is 10 ha or greater: (i) septic tanks must be fitted with effluent outlet filters, unless the equivalent level of treatment is provided within a secondary or advanced secondary wastewater treatment system (ii) the areal loading rate within the wastewater *land^* application area must be no greater than the least conservative rate provided in Tables 6.2, 6.6, 6.8 and 6.10 of the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010). (d) Where the *property** within which the *discharge^* occurs is less than 10 ha but 4 ha or greater: (ii) the treatment system must be either secondary treatment which must achieve, as a minimum, the following *discharge^* quality standards: 20 g/m^3 Biochemical Oxygen Demand and 30 g/m^3 Suspended Solids or an improved primary septic	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			tank and outlet filter (iia) the *land*^ application system must be via pumping to dose load pressure compensating dripper irrigation lines for secondary or advanced secondary treated effluent and shallow low pressure effluent distribution trenches for primary treated effluent or lesser rate in accordance with that prescribed in Table 6.2 in the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010) (iii) the areal loading rate within the wastewater *land*^ application area must be no greater than 5 mm/d (5 litres per m^2 per day) for secondary treated effluent and no greater than 3 mm/d (3 litres per m^2 per day) for primary treated effluent. (da) Where the *property** within which the *discharge*^ occurs is less than 4 ha: (i) the *property** must cover an area of at least either 5,000 m^2 for *properties** created by subdivision after this *rule*^ becomes *operative*^, or 2,500 m^2 for *properties** that existed at the date that this *rule*^ becomes *operative*^ (ii) the wastewater treatment system must include secondary treatment which must achieve, as a minimum, the following *discharge*^ quality standards: 20 g/m^3 Biochemical Oxygen Demand, 30 g/m^3 Suspended Solids, and 60 g/m^3 Total Nitrogen (iii) the *land*^ application system must be via pumping to dose load pressure compensating dripper irrigation lines (iv) the areal loading rate within the wastewater *land*^ application area must be no greater than 3mm/d (3 litres per m^2 per day) or lesser rate in	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			accordance with that prescribed in Table 6.2 in the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010). (ga) Separation distances to *water bodies*^ and *property** boundaries must be in accordance with those specified in Table 2.2 in the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010). (gb) The placement, burial, covering and exclusion of the *land*^ application area must be as specified in section 6 in the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010). (h) For secondary treatment systems there must be at least a 50% reserve disposal area allocation. For primary treatment systems this reserve area allocation must be not less than 100%. (i) The activity must not take place in any *rare habitat**, *threatened habitat** or *at-risk habitat**. (j) The activity must not be to any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (l) The wastewater treatment and *land*^ application system must be maintained by a manufacturer-approved contractor in accordance with the supplier's specifications or the requirements of the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010), whichever are the more stringent. All records of each *maintenance** action must be retained and made available for inspection by the Regional Council or its agents upon request. (m) The *discharge*^ must not cause any offensive or objectionable odour beyond the *property** boundary.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-12 *Discharges*^ of *domestic wastewater** not complying with Rules 13-10 and 13-11	The *discharge*^ of *domestic wastewater** onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA and any ancillary *discharge*^ of *contaminants*^ into air pursuant to ss15(1) or 15(2A) RMA from an on-site wastewater treatment and disposal system that does not comply with one or more of the *conditions*^ of Rules 13-10 or 13-11.	Restricted Discretionary	(a) The design flow must not exceed 6 m^3/d. (b) The flow allowance used to calculate the system design flow must be no less than 145 litres per person per day where the *water*^ supply is provided by roof *water*^ collection, or no less than 180 litres per person per day for other sources of *water*^ supply. (c) The *discharge*^ must consist only of *contaminants*^ normally associated with domestic sewage and greywater. (d) The activity must not take place in any *rare habitat**, *threatened habitat** or *at-risk habitat**. (e) The activity must not be to any *historic heritage*^ identified in any *district plan*^ or *regional plan*^.	Discretion is restricted to: (a) the volume of wastewater and design of the treatment system (b) compliance with the Manual for On-Site Wastewater Systems Design and Management (Horizons Regional Council, 2010) (c) the design of the disposal system, the disposal method, and the rate of *land*^ application (d) the *discharge*^ quality, and allowable level of contamination (e) *environmental*^ *effects*^ arising from the location and method of disposal (f) the reserve application area (g) duration of consent (h) review of consent *conditions*^ (i) compliance monitoring. *Resource consent*^ applications under this *rule*^ will not be notified and written approval of affected persons will not be required (notice of applications need not be *served*^ on affected persons).
13-13 Human effluent storage and treatment facilities	The *discharge*^ onto or into *land*^ of human effluent pursuant to ss15(1) or 15(2A) RMA for the purpose of storing or treating the effluent in ponds and any ancillary *discharge*^ to air pursuant to s15(2A) RMA. Advice Note: This *rule*^ controls sewage treatment and	Permitted	(a) All effluent storage and treatment facilities (including sumps and ponds) must be sealed to restrict seepage of effluent. The permeability of the sealing layer must not exceed $1x10^{-9}$ m/s. (b) All effluent storage and treatment facilities (including sumps and ponds) must be located and managed in a manner which ensures at all times that: (i) effluent run-off from the area into surface *water*	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	storage ponds but does not control *domestic wastewater** treatment and disposal, which is controlled under Rules 13-10, 13-11 and 13-12.		*bodies*^, *artificial watercourses** and the *coastal marine area*^ is prevented (ii) run-off from the surrounding catchment is prevented from entering the area. (c) The *discharge*^ must not result in any offensive or objectionable odour beyond the boundary of the subject *property**. (d) The *discharge*^ must comply with the following separation distances: (i) 150 m from any residential buildings, public places and amenity areas where people congregate, education facilities and public roads (ii) 50 m from *rare habitats*, threatened habitats** and *at-risk habitats** (iii) 30 m from *bores**, surface *water bodies*^, *artificial watercourses** and the *coastal marine area*^ (iv) 50 m from *historic heritage*^ as identified in any *district plan*^ or *regional plan*^.	
13-14 *Discharges*^ of *untreated human effluent** directly into surface *water*^	The *discharge*^ of *untreated human effluent** directly into a surface *water body*^ pursuant to s15(1) RMA, except stormwater that is contaminated with sewage as a result of infiltration during rainfall.	Prohibited		

Rule Guide:

Some discharges in *rare habitats*, threatened habitats** and *at-risk habitats** are regulated by Rule 12-6. Discharges at other locations are regulated as follows:

(a) Activities not covered by rules - Discharges of sewage pursuant to ss15(1) RMA that are not covered by the rules above are a discretionary activity under Rule 13-27.
(b) Activities that do not comply - Discharges of *domestic wastewater** pursuant to ss15(1) or 15(2A) RMA that do not comply with the permitted activity, controlled activity or restricted discretionary activity rules above, but which are not prohibited, are a discretionary activity under Rule 13-27.

13.5 Rules - Stormwater

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-15 *Discharges*^ of stormwater to surface *water*^ and *land*^	The *discharge*^ of stormwater into surface *water*^ pursuant to s15(1) RMA or onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA, and any ancillary takes or diversions of stormwater pursuant to s14(2) RMA forming part of the stormwater system.	Permitted	(a) The *discharge*^ must not include stormwater from any: (i) *industrial or trade premises*^ where *hazardous substances** stored or used may be entrained by the stormwater (ii) *contaminated land*^ where the *contaminants*^ of concern may be entrained by the stormwater (iii) operating quarry or *mineral*^ extraction *site** unless there is an *interceptor system** in place. (c) The *discharge*^ must not cause or exacerbate the flooding of any other *property**. (d) The activity must not cause erosion of any *land*^ or the *bed*^ of any *water body*^ beyond the point of *discharge*^ unless this is not practicably avoidable, in which case any erosion that occurs as a result of the *discharge*^ must be remedied as soon as practicable. (e) There must be no *discharge*^ to any *rare habitat**, *threatened habitat**, *at-risk habitat**, or reach of *river*^ or its *bed*^ with a Schedule AB Value of Natural State. (f) For *discharges*^ of stormwater onto or into *land*^: (i) the *discharge*^ must be below a rate that would cause flooding outside the design *discharge*^ soakage area, except in rain events equivalent to or greater than the 10% annual exceedance probability design storm. Any exceedance must go into designated overland flow paths (ii) there must not be any overland flow resulting in a *discharge*^ to a natural surface *water body*^,	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			except in rain events equivalent to or greater than the 10% annual exceedance probability design storm (iii) the *discharge*^ must not contain concentrations of *hazardous substances** that are toxic to aquatic ecosystems, or accumulate in soil. (g) For *discharges*^ of stormwater into surface *water bodies*^ the *discharge*^ must not cause any permanent reduction of the ability of the receiving *water body*^ or its *bed*^ to convey flood flows. (h) For *discharges*^ of stormwater into surface *water bodies*^ the *discharge*^ must not cause, after *reasonable mixing**, any of the following *effects*^ in the receiving *water body*^: (i) the production of conspicuous *oil** or grease films, scums or foams, or floatable or suspended materials (ii) any conspicuous change in the colour or visual clarity of the receiving *water*^ (iii) any emission of objectionable odour (iv) the rendering of fresh *water*^ unsuitable for consumption by farm animals (v) toxicity to aquatic ecosystems. (i) The activity must not be to any *historic heritage*^ identified in any *district plan*^ or *regional plan*^.	
13-17 *Discharges*^ of stormwater to surface *water*^ or land not complying with Rule 13-15	The *discharge*^ of stormwater into surface *water*^ pursuant to s15(1) RMA or onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA, which does not comply with Rule 13-15, and any ancillary takes or diversions of stormwater pursuant to s14(2) RMA forming part of the stormwater system.	Restricted Discretionary	(a) There must be no *discharge*^ to any *rare habitat**, *threatened habitat**, *at-risk habitat**, or reach of a *river*^ or its *bed*^ with a Schedule AB Value of Natural State.	Discretion is reserved over: (a) measures to control flooding and erosion (b) *contaminant*^ concentrations and loading rates (ba) measures to avoid, remedy or mitigate adverse *effects*^ on groundwater quality (bb) measures to manage the level of soil

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
				contamination (c) measures required to comply with s107(1) RMA (d) measures to assist with maintaining or achieving the Schedule D *water*^ quality targets for the relevant *Water Management Sub-zones** (e) management of odours arising from the stormwater *discharge*^ (f) stormwater system *maintenance** requirements (g) contingency requirements (h) monitoring and information requirements (i) duration of consent (j) review of consent *conditions*^.

Rule Guide:

(a) Some discharges in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rule 12-6.
(b) Discharges in a reach of a river with a Schedule AB Value of Natural State or Sites of Significance - Aquatic are regulated by Rule 13-23.

Discharges at other locations are regulated as follows:

(a) Activities not covered by rules - Discharges of stormwater pursuant to s15(1) RMA that are not covered by the rules above are a discretionary activity under Rule 13-27. Stormwater discharges into network utility piped stormwater systems are not regulated by this Plan, however permission may be required from the system owner or operator. The system owner or operator is responsible for the quality of discharges exiting the system into receiving environments.
(b) Activities that do not comply - Discharges of stormwater that do not comply with Rule 13-17 are a discretionary activity under Rule 13-27.

13.6 Rules - Dyes and Tracers

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-18 *Discharges*^ of dye and salt tracers	The *discharge*^ of dye and salt tracer material, excluding radioisotope tracers, into surface *water*^ pursuant to s15(1) RMA.	Permitted	(a) The dye or salt tracer material *discharged*^ must not exceed 20 l of dye in solution, 10 kg of salt, or 100 l of salt solution. (b) The Regional Council and the relevant *Territorial Authority*^ must be notified in writing of the proposed *discharge*^ at least 24 hours prior to the *discharge*^. Such notification must include: (i) the name and contact details of the person responsible for the *discharge*^ (ii) the purpose and nature of the *discharge*^ (iii) the nature of the tracer including its type, colour, and product name and description (iv) the location, timing and duration of the *discharge*^. (c) The dye or salt tracer must not be a hazardous substance in terms of the Hazardous Substances and New Organisms Act 1996. (d) There must be no *discharge*^ to any *rare habitat**, *threatened habitat**, *at-risk habitat**, or reach of a *river*^ or its *bed*^ with a Schedule AB Value of Natural State or Sites of Significance - Aquatic.	

Rule Guide:

(a) Some discharges in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rule 12-6.
(b) Discharges in a reach of a river with a Schedule AB Value of Natural State or Sites of Significance - Aquatic are regulated by Rule 13-23.

Discharges at other locations are regulated as follows:

(a) Activities not covered by rules - Discharges of radioisotope tracers and other tracers pursuant to s15(1) RMA that are not covered by the rule above are a discretionary activity under Rule 13-27.
(b) Activities that do not comply - Discharges of dyes and tracers pursuant to s15(1) RMA that do not comply with the permitted activity rule above are a discretionary activity under Rule 13-27.

13.7 Rules - *Cleanfill Material**, *Composting**, *Landfills** and *Solid Waste**

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-19 *Discharges*^ of *cleanfill material**	The *discharge*^ of *cleanfill material** onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA and any ancillary *discharge*^ of *contaminants*^ into *water*^ pursuant to s15(1) RMA or air pursuant to ss15(1) or 15(2A) RMA except as regulated by other *rules*^ in this Plan. The stockpiling of gravel ancillary to gravel extraction and roading activities is not restricted by this *rule*^.	Permitted	(a) The siting, design, installation and management must be in accordance with A Guide to the Management of Cleanfills (Ministry for the Environment, 2002). (b) The rate of *cleanfill material** *discharge*^ must be no more than 2,500 m^3/y per *property**. (c) The *cleanfill material** must not be *discharged*^ within: (i) a *rare habitat**, *threatened habitat** or *at-risk habitat** (ii) *land*^ with a *slope** greater than 20° (iii) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (d) Records of the source and composition of all *cleanfill material** *discharged*^ at the *site** must be maintained and made available to the Regional Council upon request. (e) The *discharge*^ of the *cleanfill material** must be undertaken and maintained in a manner so as to ensure its long-term physical stability.	
13-20 *Composting** activities	The *discharge*^ of *contaminants*^ onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA, or into air pursuant to ss15(1) or 15(2A) RMA arising from a *composting** activity.	Permitted	(a) The material to be composted must be *green waste**, and must not contain any *hazardous substance** or sewage. (b) The activity must not be located within: (i) a *rare habitat**, *threatened habitat** or *at-risk habitat** (ii) the *bed*^ of a *river*^ or *lake*^ (iii) *land*^ with a *slope** greater than 20° (iv) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(c) All areas used for the *composting** activity, including areas for storing *compost**, must be located and managed in a manner that ensures at all times when such areas are in use: (i) run-off from the area into surface *water*^ or an *artificial watercourse** is prevented (ii) run-off from the surrounding catchment is prevented from entering the area. (d) The *discharge*^ must not cause any offensive or objectionable odour or dust beyond the *property** boundary.	
13-21 Closed *landfills**	The *discharge*^ of *contaminants*^ onto or into *land*^ or into *water*^ pursuant to ss15(1) or 15(2A) RMA or air pursuant to ss15(1) or 15(2A) RMA from a closed *solid waste** *landfill**.	Controlled		Control is reserved over: (a) measures to avoid adverse *effects*^ on groundwater quality (b) measures to manage the level of soil contamination (c) measures to assist with maintaining or achieving the Schedule D *water*^ quality targets for the relevant *Water Management Sub-zones** (d) management of odour (e) stormwater management onto and from the *site** (f) contingency requirements (g) monitoring and information requirements (h) duration of consent (i) review of consent *conditions*^. *Resource consent*^ applications under this *rule*^ will not be notified and written approval of affected persons will not be required (notice of applications need not be *served*^

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
				on affected persons).
13-22 *Discharges*^ of persistent and harmful *contaminants*^	Any *discharge*^ onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA, or into *water*^ pursuant to s15(1) RMA, other than for *discharges*^ of stormwater which are provided for by Rules 13-15 and 13-17, of: (a) wastewater sludge originating from timber treatment processes using copper chromium arsenic (CCA) wood preservatives (b) perchlorethylene-contaminated *waste** from dry cleaning activities (c) persistent organochlorine substances (d) polyaromatic hydrocarbons (e) tributyl tin.	Non-complying		

Rule Guide:

(a) Some discharges in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rule 12-6.

Discharges at other locations are regulated as follows:

(a) Activities not covered by rules - Discharges onto or into land or into water pursuant to s15(1) RMA that are not covered by the rules above are a discretionary activity under Rule 13-27.
(b) Activities that do not comply - Discharges pursuant to ss15(1) or 15(2A) RMA that do not comply with the permitted activity or controlled activity rules above, but which are not non-complying, are a discretionary activity under Rule 13-27.

13.8 Rules - Discharges of Contaminants to Natural State Reaches and Sites of Significance - Aquatic

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-23 *Discharges*^ of *contaminants*^ to a reach of a *river*^ or its *bed*^ with Schedule AB Values of Natural State and Sites of Significance - Aquatic	Any direct *discharge*^ of *contaminants*^ into *water*^ or onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA in: (a) a reach of a *river*^ or its *bed*^ with a Schedule AB Value of Natural State (b) a reach of a surface *water body*^ or its *bed*^ with a Schedule AB Value of Sites of Significance - Aquatic except the *discharge*^ of *agrichemicals** for the ~~purpose of controlling a pest~~ control of pest plants for the purposes of habitat maintenance or enhancement ~~described in item (k) of the Glossary definition of *vegetation clearance** and *land disturbance**, or a pest animal in the Council's Regional Pest Animal Management Strategy~~ (this activity is regulated by Rule 14-2).	Discretionary		

13.9 Rules - Generic Discharge Rules

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-24 *Discharges*^ of *contaminants*^ to surface *water*^	The *discharge*^ of *contaminants*^ into surface *water*^ pursuant to s15(1) RMA, except as regulated by other *rules*^ in this Plan.	Permitted	(a) The rate of *discharge*^ must be no greater than 50 m^3/d. (b) The *discharge*^ must not contain agricultural *waste**, sewage, stormwater, *cleanfill material**, *contaminants*^ from *composting** activities, or *contaminants*^ from *landfills**. (c) The *discharge*^ must not cause or exacerbate the flooding of any other *property**. (d) The *discharge*^ must not cause any scouring or erosion of any *land*^ or *bed*^ of a *water body*^ beyond the point of *discharge*^. (e) The *discharge*^ must not alter the natural course of any *water body*^ or its *bed*^. (f) There must be no *discharge*^ to any natural *lake*^, *rare habitat**, *threatened habitat**, *at-risk habitat**, Site of Significance - Aquatic or reach of a *river*^ or its *bed*^ with a Schedule AB Value of Natural State. (g) The *discharge*^ must not cause, after *reasonable mixing**, any of the following *effects*^ in the receiving *water body*^: (i) the production of conspicuous *oil** or grease films, scums or foams, or floatable or suspended materials (ii) any conspicuous change in the colour or visual clarity of the receiving *water*^ (iii) any emission of offensive or objectionable odour. (h) The *discharge*^ must not, after *reasonable mixing**, cause the receiving *water body*^ to breach the *water*^ quality targets for that *water body*^ set out in Schedule D, either from the *discharge*^ itself or in combination with any other *discharges*^.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-25 *Discharges*^ of *contaminants*^ onto or into *land*^ that will not enter *water*^	The *discharge*^ of *contaminants*^ onto or into *land*^ in circumstances that will not result in any *contaminant*^ entering *water*^, pursuant to ss15(1)(d) or 15(2A) RMA, except as regulated by other *rules*^ in this Plan.	Permitted	(a) The rate of *discharge*^ must be no more than 100 m^3/y per *property**. (b) The *discharge*^ must not contain agricultural *waste** (except for run-off from a stock crossing bridge or culvert required under Rules 13-1 to 13-1C), sewage, stormwater, *cleanfill material**, *contaminants*^ from *composting** activities, or *contaminants*^ from *landfills**. (c) The *discharge*^ must not be located within: (i) any *rare habitat**, *threatened habitat** or *at-risk habitat** (ii) the *bed*^ of a *river*^ or *lake*^ (iii) *land*^ with a *slope** greater than 20° (iv) 50 m from any *historic heritage*^ identified in any *district plan*^ or *regional plan*^. (d) Records of the source and composition of the *discharge*^ must be maintained and made available to the Regional Council upon request. (e) The *discharge*^ must be undertaken and maintained in a manner so as to ensure its long-term stability, and avoid the risk of erosion. (f) The *discharge*^ must not cause any increase in the concentration of *hazardous substances** or pathogenic organisms on or in any *land*^. (g) The *discharge*^ must not have any acid-producing potential. With the exception of standard (c)(i) in relation to any rare habitat or threatened habitat these standards do not apply to the discharge^ of live ammunition for weapons training purposes within land held under the Defence Act 1990 where it is undertaken in accordance with that Act.	
13-26 *Discharges*^ of *contaminants*^ onto or into *land*^ that	The *discharge*^ of *contaminants*^ onto or into *land*^ in circumstances which may result in those *contaminants*^ (or any other *contaminant*^ emanating as a result of	Permitted	(a) The *discharge*^ must comply with all of the *conditions*^ of Rule 13-24. (b) The *discharge*^ must comply with all of the *conditions*^ of Rule 13-25, except (a).	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
may enter *water*^	natural processes from those *contaminants*^) entering *water*^, pursuant to ss15(1)(b) or 15(2A) RMA, except as regulated by other *rules*^ in this Plan.		(c) The *discharge*^ must be at least 600 mm above the seasonally highest *water*^ table. (d) The *discharge*^ must comply with the following separation distances: (i) at least 30 m from any *bore** (ii) at least 20 m from any surface *water body*^, *artificial watercourse** and the *coastal marine area*^. (da) The *discharge*^ must not be located within any *rare habitat**, *threatened habitat** or *at-risk habitat**. (e) There must be no surface ponding in the area of *discharge*^, or run-off of any *contaminant*^ into a surface *water body*^ or its *bed*^, *artificial watercourse** or the *coastal marine area*^ as a result of the *discharge*^. (f) The *discharge*^ must not cause any more than minor reduction in the quality of groundwater. (g) The *discharge*^ must not result in any airborne liquid *contaminant*^ being carried beyond the boundary of the *property**. With the exception of standard (da) in relation to any rare habitat or threatened habitat and for discharges on a purpose built weapons training range these standards do not apply to the *discharge*^ of live ammunition for weapons training purposes within land held under the Defence Act 1990 where it is undertaken in accordance with that Act.	
13-26A *Replacement consents for discharges*^ of *water*^ and *contaminants*^ to *water*^ and *land*^ from existing hydroelectricity	The *discharge*^ of *water*^ or *contaminants*^ into *water*^ or onto or into *land*^ pursuant to ss15(1) or 15(2A) RMA from existing consented hydroelectricity generation schemes for which replacement consents are sought.	Controlled	(a) The consent application is to replace existing consents that are expiring and there is no increase to the existing volume of *discharge*^ or the nature of *contaminants*^. (b) The activity must not take place in any *rare habitat**, *threatened habitat** or *at-risk habitat**.	Control is reserved over: (a) measures to control flooding and erosion (b) *contaminant*^ concentrations and loading rates (c) measures required to comply with s107(1) RMA (d) measures to assist with maintaining or achieving the Schedule D *water*^ quality

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
schemes				targets for the relevant *Water Management Sub-zones**
				(da) measures to avoid, remedy or mitigate any adverse *effects*^ on the Values of the *water body*^ at and below the point of discharge
				(db) measures to avoid, remedy or mitigate any adverse effects on the instream geomorphical components of natural character of the waterbody
				(dc) water levels, flow regime and minimum flows
				(e) maintenance and contingency requirements
				(f) monitoring and information requirements
				(g) measures to avoid, remedy or mitigate adverse effects^ on tangata whenua^ values
				(h) duration of consent
				(i) review of consent conditions^
				(j) compliance monitoring.
				Resource consent applications under this rule will be notified to those parties who are adversely affected in relation to the matters over which control is reserved. This clause does not preclude full public notification at the councils discretion in accordance with the RMA.

Rule Guide:

(a) Some discharges pursuant to s15(1) RMA in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rule 12-6.
(b) Discharges pursuant to ss15(1) or 15(2A) RMA in a reach of a river with a Schedule AB Value of Natural State or Sites of Significance - Aquatic are regulated by Rule 13-23.

Discharges at other locations are regulated as follows:

(a) Discharges pursuant to s15(1) RMA that do not meet the requirements of the generic rules, and are not covered by any other rule in the Plan, are discretionary activities under Rule 13-27.

13.10 Rules - Default Discharge Rule

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
13-27 *Discharges*^ of water^ or *contaminants*^ to *land*^ or *water*^ not covered by other *rules*^ in this Plan or chapter	The *discharge*^ of *water*^ or *contaminants*^ into surface *water*^ pursuant to s15(1)(a) RMA or *discharge*^ of *contaminants*^ onto or into *land*^ pursuant to ss15(1)(b), 15(1)(d) or 15(2A) RMA which are not regulated by other *rules*^ in this Plan, or which do not comply with the *permitted activity*^, *controlled activity*^ or restricted *discretionary activity*^ *rules*^ in this chapter.	Discretionary		

APPENDIX THREE

Amended Tables 37 and 41 as contained in the Evidence in Chief of Jon Roygard and Maree Clark dated 24 February 2012

Table 1: Calculations of losses from Sheep/beef farms using the 'by difference' method for the sites of this study. The values for dairy farms are included to allow for easy comparison of these. Units have been corrected and shaded in grey.

Site	In-River losses (kg SIN/ha/year)		Direct losses (kg N/ha/year)	
	Sheep/beef	Dairy	Sheep/beef	Dairy
Manawatu Catchment				
Manawatu at Weber Road	3.81	13.43	7.63	26.85
Manawatu at Hopelands	5.39	13.05	10.79	26.09
Tiraumea at Ngaturi	4.17	10.98	8.34	21.95
Mangatainoka at Larsons Road	3.26	12.06	6.52	24.11
Makakahi at Hamua	12.43	12.06	24.86	24.11
Mangatainoka at SH2	18.36	12.36	36.72	24.71
Mangahao at Ballance	9.06	10.98	18.13	21.95
Manawatu at Upper Gorge	7.57	12.65	15.13	25.29
Waikawa Catchment				
Manakau at SH1	5.14	8.00	10.29	16.00
Waikawa at North Manakau	-4.37	8.00	-8.75	16.00
Waikawa at Huritini	12.27	8.00	24.55	16.00
Rangitikei catchment				
Rangitikei at Mangaweka	0.38	13.19	0.76	26.38
Rangitikei at Onepuhi	1.48	13.19	2.96	26.38
Rangitikei at McKelvies	0.60	10.98	1.19	21.95

Table 2: Loading scenario results expressed as a percentage improvement from current state (positive percentages) or a percentage degradation from the existing state (a negative percentage). TC = target catchment and con = conversions. Ammendments to the table presented originally are bolded italicised and shaded in grey

				CURRENT LOAD	LUC APPROACHES					SINGLE NUMBER LIMITS APPROACHES									DO NOTHING APPROACHES			
			Year	2008	2030	2008	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030
			Scenario	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Loss Limit	Current loss	LUC DVPOP	DVPOP	DVPOP	NVPOP yr 1	NVPOP yr20	Regional average	Site average	15	18	21	24	27	30	33	Current loss	Current loss + 5%	Current loss + 10%	Current loss 15%
Site	**Target Catchment**	**Target Load**	**Area applied**	**All dairy**	**Con only**	**all dairy in DVPOP TC**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**	**Dairy in DVPOP TC and con**
Manawatu Catchment																						
Manawatu at Weber Road	Yes	69.6		0%	-1%	5%	4%	4%	9%	2%	-2%	10%	7%	4%	1%	-2%	-5%	-8%	-2%	*-3%*	*-5%*	*-6%*
Manawatu at Hopelands	Yes	364.3		0%	-2%	6%	4%	6%	12%	2%	-2%	14%	10%	5%	1%	-4%	-8%	-12%	-2%	*-4%*	*-6%*	*-8%*
Tiraumea at Ngaturi	No	222.4		0%	0%	0%	0%	0%	0%	-1%	0%	1%	1%	0%	-1%	-2%	-2%	-3%	0%	*-1%*	*-1%*	*-1%*
Mangatainoka at Larsons Road	Yes	11.6		0%	-1%	4%	3%	6%	8%	-1%	-2%	7%	4%	1%	-2%	-5%	-7%	-10%	-2%	*-3%*	*-4%*	*-5%*
Makakahi at Hamua	Yes	91.1		0%	1%	6%	6%	9%	15%	2%	0%	15%	10%	5%	0%	-5%	-10%	-15%	0%	*-2%*	*-4%*	*-6%*
Mangatainoka at SH2	Yes	264.3		0%	2%	3%	5%	6%	12%	4%	2%	14%	10%	7%	3%	-1%	-5%	-9%	2%	*0%*	*-2%*	*-3%*
Mangahao at Ballance	No	79.5		0%	0%	0%	0%	0%	0%	-2%	0%	9%	5%	1%	-3%	-7%	-11%	-15%	0%	*-2%*	*-3%*	*-5%*
Manawatu at Upper Gorge	Yes[1]	1193.5		0%	-1%	4%	3%	4%	9%	1%	-1%	10%	7%	4%	0%	-3%	-6%	-10%	-1%	*-3%*	*-4%*	*-6%*
Waikawa Catchment																						
Manakau at SH1	Yes	2		0%	0%	-1%	-1%	-1%	0%	-1%	0%	0%	0%	-1%	-1%	-2%	-2%	-3%	0%	0%	0%	0%
Waikawa at North Manakau	Yes	8.1		0%	-6%	-10%	-16%	-11%	-4%	-20%	-5%	-3%	-9%	-16%	-22%	-28%	-35%	-41%	-5%	-7%	-9%	-10%
Waikawa at Huritini	Yes	10		0%	0%	-14%	-13%	-10%	-2%	-12%	2%	4%	-2%	-8%	-14%	-21%	-27%	-33%	2%	0%	-2%	-3%
Rangitikei catchment																						
Rangitikei at Mangaweka	No	220		0%	0%	0%	0%	0%	0%	0%	-1%	0%	0%	0%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%

[1] But with some upstream area excluded

				CURRENT LOAD	LUC APPROACHES					SINGLE NUMBER LIMITS APPROACHES									DO NOTHING APPROACHES			
			Year	2008	2030	2008	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030
			Scenario	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Loss Limit	Current loss	LUC DVPOP	DVPOP	DVPOP	NVPOP yr 1	NVPOP yr20	Regional average	Site average	15	18	21	24	27	30	33	Current loss	Current loss + 5%	Current loss + 10%	Current loss 15%
Site	Target Catchment	Target Load	Area applied	All dairy	Con only	all dairy in DVPOP TC	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con	Dairy in DVPOP TC and con
Rangitikei at Onepuhi	No	230.1		0%	-1%	0%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-2%	-2%	-1%	-2%	-3%	-4%
Rangitikei at McKelvies	No	248.3		0%	-4%	0%	-4%	-4%	-3%	-5%	-3%	8%	3%	-2%	-6%	-11%	-15%	-20%	-3%	-5%	-6%	-8%
Rangitikei at McKelvies	No[2]	248.3		0%	-4%	0%	-3%	-4%	4%	-1%	-4%	9%	5%	2%	-2%	-6%	-9%	-13%	-4%	-6%	-8%	-9%

[2] but modelled as in here as was included in NVOP

APPENDIX FOUR

Memorandum from Barry Biggs regarding the Periphyton Model dated 29th March 2012

horizons regional council

MEMORANDUM

FILE: OMS1019

DATE: 29 March 2012

TO: Clare Barton

FROM: Barry Biggs

SUBJECT: **PERIPHYTON MODEL**

Clare

As request, below are a few notes in response to comments made by Dr Scarsbrook about the periphyton model used in setting the schedule D numerics for the One Plan.

In relation to the periphyton model it should be noted that:

a. This is not a hypothetical formulation, just a statistical fit of real data representing what has been observed to happen in the 'real world'
b. The assertion that lower maximum biomass will occur in the Horizon's Region for a given nutrient concentration (implying that higher nutrient concentrations can be permitted) is not supported by the data that underlie the model.
    i. I have 2 sites from the Region (Moawhango, Turakina) and 2 on the boundary of the Region in the same/similar bio-physical regime (Maraekakaho, Tutaekuri over the hill in Hawkes Bay) in the dataset. I will call these the 'Manawatu area sites'
    ii. Maximum biomass for 3/4 of these sites is much higher than the model average, for a given nutrient concentration (by a magnitude of 4 – 10 times). The forth site plots on the average for the dataset (where 26 points come from outside the wider Manawatu area)
    iii. If Dr Scarsbrook's assertions were true, then all the Manawatu area sites should plot below the average of my model.
    iv. This can be partly observed in Dr Scarsbrook's Figure 2 of his Evidence of 14th March. For example, in the top graph (Max algal biomass vs. Median SIN) there are 6 data points labelled 'National' above the line. 4 of these are from the Manawatu area, incl. the 2 highest points. A similar situation occurs for the DRP plot. These are actual measurements and indicate that the current Council Manawatu dataset is not yet representing the full range of responses for a given nutrient loading in the region. This may be due to recent flow conditions in the rivers.
c. The model was only used in its full capacity to predict outcomes of the different nutrient management scenarios.
d. Most critically, the numeric standards in the POP, that are driving the management targets, were generated based on being '**informed'** by the model – not as a direct output from it. To develop the proposed standards, I also used the experience I had gained from reviewing, and working with, a range of experimental and field-based nutrient – periphyton studies carried out by/with leading colleagues overseas. Thus, the recommended numerics were developed from the 'best knowledge' internationally.

e. Had I just used the model, then the recommended nutrient levels would have been lower than what I have recommended here (eg, see Table 15 in the MfE Periphyton Guidelines – using my model for N-limited streams where limits of < 0.010 g/m^3 and < 0.034 g/m^3 SIN are recommended to protect life supporting capacity and trout habitat/angling values in streams). I have made allowance for other factors such as invertebrate grazing which will influence the expression of biomass for a given nutrient concentration and also taken a pragmatic approach that allowing higher biomass than the biomass numeric for short periods (eg, < 4 – 5 weeks) should not result in catastrophic damage to the target values.

Overseas research almost all focusses on P. It strongly supports maintaining SRP concentrations at < 0.015 g/m^{-3} to control the worst excesses of periphyton growth and < 0.010 g/m^{-3} to protect values such as trout habitat etc.

a. For example, Welch et al. 1989 (Water Research) state: "*For the Spokane River, critical distance with biomass exceeding 200 mg/m2 chlorophyll a may exceed 10 km unless SRP is held below 0.010 g/m^{-3}".*
b. For further discussion of this and references, see Biggs (2000) – J. NABS paper.

I still support the development of a regionally-based model, if an adequate dataset can be collected. Unfortunately, an earlier analysis of the first year of Manawatu monitoring data did not allow for this because the range of hydrological conditions (which also strongly drive periphyton development) were too narrow to be modelled properly. Perhaps this is something that can be addressed when a longer time series of observations is obtained.

Dr Barry Biggs
NIWA

APPENDIX FIVE

Memorandum regarding agreement on
Additional Schedule AB Value – Domestic Food Supply

BEFORE THE ENVIRONMENT COURT

In the matter of	appeals under clause 14 of the First Schedule to the Resource Management Act 1991 concerning proposed One Plan for the Manawatu-Wanganui region.
between	**HORTICULTURE NEW ZEALAND** **ENV-2010-WLG-000155** *Appellant*
and	**MANAWATU-WANGANUI REGIONAL COUNCIL** *Respondent*

MEMORANDUM REGARDING AGREEMENT ON ADDITIONAL SCHEDULE AB VALUE - DOMESTIC FOOD SUPPLY

Dated: February 2012

horizons regional council

Solicitor: John W Maassen

Administrator: Barry Gilliland

Address: 11-15 Victoria Avenue
Private Bag 11025
Palmerston North 4442

Telephone: (06) 952 2800
Facsimile: (06) 952 2929
Email: barry gilliland@horizons.govt.nz

MEMORANDUM OF AGREEMENT

1. In its appeal, Horticulture New Zealand sought relief to specific policy provisions in the Proposed One Plan or, alternatively, amendment to Schedule AB that would satisfy the appeal points.

2. The parties to this memorandum agree that the concerns raised can be addressed by including a new surface water management Value of Domestic Food Supply (DFS) in Schedule AB which results in the consequential amendments listed below and documented in Appendix A:

   (a) Add DFS to Amend Table 6.2

   (b) Add DFS to SCHEDULE AB INDEX

   (c) Add an extra column in Table AB.1 with "ticks" where the DFS Value applies

   (d) Add new Figure AB:12 Visual Guide to the Distribution of the Domestic Food Supply (DFS) Value

   (e) Add new Table AB.12: Domestic Food Supply (DFS) Value in the Region

   (f) Add DFS to Part AB.3

3. For the sake of clarity, these amendments will resolve appeal points 18, 19, 20 21, 22, 29, 50, 51, 60, 75 and 77

4. There is no issue as to costs.

On behalf of Manawatu-Wanganui Regional Council

17/2/2012.

On behalf of Horticulture New Zealand

APPENDIX A

Table 6.2 Surface *Water*^ Management Values and Management Objectives

Value Group	Individual Values		Management Objective
Ecosystem Values	NS	Natural State	The *river*^ and its *bed*^ are maintained in their natural state
	LSC	Life-supporting Capacity	The *water body*^ and its *bed*^ support healthy aquatic life / ecosystems
	SOS-A	Sites of Significance - Aquatic	Sites of significance for indigenous aquatic biodiversity are maintained or enhanced
	SOS-R	Sites of Significance - Riparian	Sites of significance for indigenous riparian biodiversity are maintained or enhanced
	IS	Inanga Spawning	The *water body*^ and its *bed*^ sustain healthy inanga spawning and egg development
	WM	*Whitebait** Migration	The *water body*^ and its *bed*^ are maintained or enhanced to provide safe passage of inwardly migrating juvenile native fish known collectively as *whitebait**
Recreational and Cultural Values	CR	Contact Recreation	The *water body*^ and its *bed*^ are suitable for contact recreation
	MAU	*Mauri**	The *mauri** of the *water body*^ and its *bed*^ is maintained or enhanced
	SOS-C	Sites of Significance - Cultural	Sites of significance for cultural values are maintained
	TF	Trout Fishery	The *water body*^ and its *bed*^ sustain healthy rainbow or brown trout fisheries
	TS	Trout Spawning	The *water body*^ and its *bed*^ meet the requirements of rainbow and brown trout spawning and larval and fry development
	AE	Aesthetics	The aesthetic values of the *water body*^ and its *bed*^ are maintained or enhanced
***Water*^ Use**	WS	*Water*^ Supply	The *water*^ is suitable, after treatment, as a drinking *water*^ source for human consumption
	IA	Industrial Abstraction	The *water*^ is suitable as a *water*^ source for industrial abstraction or use, including for hydroelectricity generation
	I	Irrigation	The *water*^ is suitable as a *water*^ source for irrigation
	SW	Stockwater	The *water*^ is suitable as a supply of drinking *water*^ for livestock
	DFS	Domestic Food Supply	The *water*^ is suitable for domestic food production
Social/ Economic Values	CAP	Capacity to Assimilate Pollution	The capacity of a *water body*^ and its *bed*^ to assimilate pollution is not exceeded
	FC/D	Flood Control and Drainage	The integrity of existing flood and *river*^ bank erosion protection *structures*^ and existing drainage *structures*^ is not compromised
	EI	Existing *Infrastructure*^	The integrity of existing *infrastructure*^ is not compromised

Schedule AB: Surface *Water*^ Management Values

Schedule AB is a component of Part II - the Regional Plan.

This Schedule uses the terminology "Surface *Water*^ Management Values". In some cases, these Values also apply to the *beds*^ of the relevant *water body*^. This is clarified in Part AB.3 and the respective policies and rules of Part II.

SCHEDULE AB INDEX:

Part AB.1: Surface *Water*^ Management Values listed by *Sub-zone**

ADVICE NOTE: To help with interpretation of these tables please turn to Part AB.3 (the back of Schedule AB) and fold out the **VALUES KEY** and view together with the tables and figures in this schedule.

Legend:
Table Headings: LSC: Life-supporting Capacity; AE: Aesthetics; CR: Contact Recreation; Mau: Mauri; IA: Industrial Abstraction; I: Irrigation; SW: Stockwater; EI: Existing *Infrastructure*^; CAP: Capacity to Assimilate Pollution; NS: Natural State; SOS-A: Sites of Significance - Aquatic; SOS-R: Sites of Significance - Riparian; IS: Inanga Spawning; DFS: Domestic Food Supply; WM: *Whitebait** migration; SOS-C: Sites of Significance - Cultural; TF: Trout Fishery; TS: Trout Spawning; WS: Water Supply; FC/D: Flood Control and Drainage.

Key for LSC Classes: UHS: Upland Hard Sedimentary, UVA: Upland Volcanic Acidic, UVM: Upland Volcanic Mixed, ULi: Upland Limestone, HM: Hill Mixed, HSS: Hill Soft Sedimentary, LM: Lowland Mixed, LS: Lowland Sand. The LSC Classes are listed as the geology of the catchment influences water quality and life-supporting capacity

Key for Fishery Classes: I: Outstanding, II: Regionally Significant, III: Other Trout Fishery

Table AB.1: Surface *Water*^ Management Values by *Sub-zone**

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
Upper Manawatu (Mana_1)	Upper Manawatu (Mana_1a)	Manawatu River from Weber Road at approx. NZMS 260 U23:751-027 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II	✓		✓	
	Mangatewainui (Mana_1b)	Mangatewainui River from Manawatu River confluence at approx. NZMS 260 U23:829-086 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II	✓		✓	
	Mangatoro (Mana_1c)	Mangatoro Stream from Manawatu River confluence at approx. NZMS 260 U23:810-027 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓						II	✓		✓	
Weber-Tamaki (Mana_2)	Weber-Tamaki (Mana_2a)	Manawatu River from Tamaki River confluence at approx. NZMS 260 U23:709-003 to Weber Road at approx. NZMS 260 U23:751-027	HM	✓	✓	✓	✓	✓	✓	✓	✓			✓				II			✓	
	Mangatera (Mana_2b)	Mangatera Stream from Manawatu River confluence at approx. NZMS 260 U23:737-025 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓								✓		✓	

1 Includes all inflowing tributaries and surrounding catchment area unless otherwise specified.
2 All natural *water bodies** except those classified as NS and those identified as zero allocation in Schedule B.
3 All natural *water bodies** and their *beds*^ except those classified as NS.

5845

Table AB.1: Surface *Water*^ Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
Upper Tamaki (Mana_3)	Upper Tamaki (Mana_3)	Tamaki River from water supply weir at approx. NZMS 260 U23:709-111 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						✓	✓	✓	
Upper Kumeti (Mana_4)	Upper Kumeti (Mana_4)	Kumeti Stream from Te Rehunga flow recorder at approx. NZMS 260 T23:663-052 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								✓	
Tamaki-Hopelands (Mana_5)	Tamaki-Hopelands (Mana_5a)	Manawatu River from Hopelands at approx. NZMS 260 T24:616-899 to Tamaki River confluence at approx. NZMS 260 U23:709-003	HM	✓	✓	✓	✓	✓	✓	✓	✓			✓				II	✓		✓	
	Lower Tamaki (Mana_5b)	Tamaki River from Manawatu River confluence at approx. NZMS 260 U23:709-002 to water supply weir at approx. NZMS 260 U23:709-111	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						✓		✓	
	Lower Kumeti (Mana_5c)	Kumeti Stream from Manawatu River confluence at approx. NZMS 260 U23:701-006 to Te Rehunga flow recorder at approx. NZMS 260 T23:663-052	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓		✓	
	Oruakeretaki (Mana_5d)	Oruakeretaki Stream from Manawatu River confluence at approx. NZMS 260 T23:690-000 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						✓		✓	
	Raparapawai (Mana_5e)	Raparapawai Stream from Manawatu River confluence at approx. NZMS 260 T24:643-932 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓		✓	
Hopelands-Tiraumea (Mana_6)	Hopelands-Tiraumea (Mana_6)	Manawatu River from Tiraumea River confluence at approx. NZMS 260 T24:553-870 to Hopelands at approx. NZMS 260 T24:616-899	HM	✓	✓	✓	✓	✓	✓	✓	✓			✓				II			✓	
Tiraumea (Mana_7)	Upper Tiraumea (Mana_7a)	Tiraumea River from Makuri River confluence at approx. NZMS 260 T24:578-780 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓						III			✓	
	Lower Tiraumea (Mana_7b)	Tiraumea River from Manawatu River confluence at approx. NZMS 260 T24:555-870 to Makuri River confluence at approx. NZMS 260 T24:578-780	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III				
	Mangaone River (Mana_7c)	Mangaone River from Tiraumea River confluence at approx. NZMS 260 T24:541-730 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓									✓	

5846

Table AB.1: Surface *Water*^ Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values								
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
	Makuri (Mana_7d)	Makuri River from Tiraumea River confluence at approx. NZMS 260 T24:568-771 to source	ULi	✓	✓	✓	✓	✓	✓	✓	✓	✓						II	✓			
	Mangaramarama (Mana_7e)	Mangaramarama Creek from Tiraumea River confluence at approx. NZMS 260 T24:559-854 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓										✓	
Mangatainoka (Mana_8)	Upper Mangatainoka (Mana_8a)	Mangatainoka River from Larsons Road at approx. NZMS 260 T25:308-595 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II	✓	✓	✓	
	Middle Mangatainoka (Mana_8b)	Mangatainoka River from Makakahi River confluence at approx. NZMS 260 T24:475-775 to Larsons Road at approx. NZMS 260 T25:308-595	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II	✓	✓	✓	
	Lower Mangatainoka (Mana_8c)	Mangatainoka River from Tiraumea River confluence at approx. NZMS 260 T24:577-854 to Makakahi River confluence at approx. NZMS 260 T24:475-775	HM	✓	✓	✓	✓	✓	✓	✓	✓			✓				II	✓	✓	✓	
	Makakahi (Mana_8d)	Makakahi River from Mangatainoka River confluence at approx. NZMS 260 T24:475-775 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II	✓	✓	✓	
Upper Gorge (Mana_9)	Upper Gorge (Mana_9a)	Manawatu River from Upper Gorge at approx. NZMS 260 T24:494-933 to Tiraumea River confluence at approx. NZMS 260 T24:553-870	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III			✓	
	Mangapapa (Mana_9b)	Mangapapa Stream from Mangaatua Stream confluence at approx. NZMS 260 T24:515-922 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓	✓	✓	
	Mangaatua (Mana_9c)	Mangaatua Stream from Manawatu River confluence at approx. NZMS 260 T24:496-925 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								✓	
	Upper Mangahao (Mana_9d)	Mangahao River from Ballance at approx. NZMS 260 T24:468-818 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III	✓		✓	
	Lower Mangahao (Mana_9e)	Mangahao River from Manawatu River confluence at approx. NZMS 260 T24:496-891 to Ballance at approx. NZMS 260 T24:468-818	HM	✓	✓	✓	✓	✓	✓	✓	✓			✓				III	✓		✓	

5847

Table AB.1: Surface *Water*^ Management Values by *Sub-zone**

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
Middle Manawatu (Mana_10)	Middle Manawatu (Mana_10a)	Manawatu River from Teachers College at approx. NZMS 260 T24:331-892 to Upper Gorge at approx. NZMS 260 T24:494-933	HM	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	III			✓	
	Upper Pohangina (Mana_10b)	Pohangina River from Totara Reserve at approx. NZMS 260 T23:534-167 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III	✓		✓	
	Middle Pohangina (Mana_10c)	Pohangina River from Mais Reach at approx. NZMS 260 T23:467-053 to Totara Reserve at approx. NZMS 260 T23:534-167	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III	✓		✓	
	Lower Pohangina (Mana_10d)	Pohangina River from Manawatu River confluence at approx. NZMS 260 T24:450-966 to Mais Reach at approx. NZMS 260 T23:467-053	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	III			✓	
	Aokautere (Mana_10e)	Aokautere Stream from Manawatu River confluence at approx. NZMS 260 T24:349-899 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓											
Lower Manawatu (Mana_11)	Lower Manawatu (Mana_11a)	Manawatu River from Oroua River confluence at approx. NZMS 260 S24:167-826 to Teachers College at approx. NZMS 260 T24:331-892	HM	✓	✓	✓	✓	✓	✓	✓	✓			✓			✓	III			✓	
	Turitea (Mana_11b)	Turitea Stream from Manawatu River confluence at approx. NZMS 260 T24:304-881 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓		✓					III	✓	✓		
	Kahuterawa (Mana_11c)	Kahuterawa Stream from Manawatu River confluence at approx. NZMS 260 S24:292-876 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓			
	Upper Mangaone Stream (Mana_11d)	Mangaone Stream from Milson Line at approx. NZMS 260 T24:311-953 to source	LM	✓	✓	✓	✓	✓	✓	✓	✓										✓	
	Lower Mangaone Stream (Mana_11e)	Mangaone Stream from Manawatu River confluence at approx. NZMS 260 S24:283-872 to Milson Line at approx. NZMS 260 T24:311-953	LM	✓	✓	✓	✓	✓	✓	✓	✓										✓	
	Main Drain (Mana_11f)	Main Drain catchment (including Taonui Stream) from Manawatu River confluence at approx. NZMS 260 S24:181-836 to source	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓								✓	
Oroua (Mana_12)	Upper Oroua (Mana_12a)	Oroua River from Almadale at approx. NZMS 260 T23:365-113 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III	✓	✓	✓	✓

5848

Table AB.1: Surface *Water*^ Management Values by *Sub-zone**

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
	Middle Oroua (Mana_12b)	Oroua River from Awahuri Bridge at approx. NZMS 260 S23:243-002 to Almadale at approx. NZMS 260 T23:365-113	HM	✓	✓	✓	✓	✓	✓	✓	✓			✓				III		✓	✓	✓
	Lower Oroua (Mana_12c)	Oroua River from Manawatu River confluence at approx. NZMS 260 S24:167-826 to Awahuri Bridge at approx. NZMS 260 S23:243-002	LM	✓	✓	✓	✓	✓	✓	✓	✓			✓			✓	III			✓	✓
	Kiwitea (Mana_12d)	Kiwitea Stream from Oroua River confluence at approx. NZMS 260 T23:309-066 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓					✓	✓	✓	✓
	Makino (Mana_12e)	Makino Stream from Oroua River confluence at approx. NZMS 260 S23:243-004 to source	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓					III	✓		✓	✓
Coastal Manawatu (Mana_13)	Coastal Manawatu (Mana_13a)	Manawatu River at approx. NZMS 260 S24: 977-788 to Oroua River confluence at approx. NZMS 260 S24:167-826 (excluding the mainstem of the Manawatu River from the cross-river CMA boundary at NZMS 260 S24:2700963-6076686 seawards)	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	III			✓	
	Upper Tokomaru (Mana_13b)	Tokomaru River from Horseshoe Bend at approx. NZMS 260 S24:241-768 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓	✓		
	Lower Tokomaru (Mana_13c)	Tokomaru River from Manawatu River confluence at approx. NZMS 260 S24:134-727 to Horseshoe Bend at approx. NZMS 260 S24:241-768	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓					III	✓	✓	✓	
	Mangaore (Mana_13d)	Mangaore River from Manawatu River confluence at approx. NZMS 260 S24:123-717 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓	✓	
	Koputaroa (Mana_13e)	Koputaroa Stream from Manawatu River confluence at approx. NZMS 260 S24:106-708 to source	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓								✓	
	Foxton Loop (Mana_13f)	Manawatu River from downstream limit of Whirikino Cut at approx. NZMS 260 S24:010-769 to SH1	LM	✓	✓	✓	✓	✓	✓	✓	✓						✓				✓	
Upper Rangitikei (Rang_1)	Upper Rangitikei (Rang_1)	Rangitikei River from Makahikatoa Stream at approx. NZMS 260 U21:726-888 to source	UHS	✓	✓	✓			✓	✓	✓	✓	✓					I	✓	✓		

5849

Table AB.1: Surface *Water*^ Management Values by *Sub-zone**

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
Middle Rangitikei (Rang_2)	Middle Rangitikei (Rang_2a)	Rangitikei River from Pukeokahu at approx. NZMS 260 U21:713-708 to Makahikatoa Stream at approx. NZMS 260 U21:726-888	UHS	✓	✓	✓	✓	✓	✓	✓	✓							I	✓	✓		
	Pukeokahu – Mangaweka (Rang_2b)	Rangitikei River from Mangaweka at approx. NZMS 260 T22:504-513 to Pukeokahu at approx. NZMS 260 U21:713-708	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					I	✓	✓		
	Upper Moawhango (Rang_2c)	Moawhango River from Moawhango Dam at approx. NZMS 260 T20:469-960 to source	UVA	✓	✓	✓	✓		✓	✓	✓	✓		✓				III	✓	✓		
	Middle Moawhango (Rang_2d)	Moawhango River from Moawhango Township at approx. NZMS 260 T21:557-745 to Moawhango Dam at approx. NZMS 260 T20:469-960	UVM	✓	✓	✓			✓	✓	✓			✓				III	✓	✓		
	Lower Moawhango (Rang_2e)	Moawhango River from Rangitikei River confluence at approx. NZMS 260 T21:609-623 to Moawhango Township at approx. NZMS 260 T21:557-745	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓						III		✓		
	Upper Hautapu (Rang_2f)	Hautapu River from Taihape at approx. NZMS 260 T21:506-670 to source	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓						II	✓	✓		
	Lower Hautapu (Rang_2g	Hautapu River from Rangitikei River confluence at approx. NZMS 260 T22:529-574 to Taihape at approx. NZMS 260 T21:506-670	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓						III	✓	✓		
Lower Rangitikei (Rang_3)	Lower Rangitikei (Rang_3a)	Rangitikei River from Onepuhi at approx. NZMS 260 S23:201-222 to Mangaweka at approx. NZMS 260 T22:504-513	HM	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓				I/II	✓	✓	✓	
	Makohine (Rang_3b)	Makohine Stream from Rangitikei River confluence at approx. NZMS 260 T22:400-443 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓								✓	✓		
Coastal Rangitikei (Rang_4)	Coastal Rangitikei (Rang_4a)	Rangitikei River from McKelvies at approx. NZMS 260 S24:033-985 to Onepuhi at approx. NZMS 260 S23:201-222	HM	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓				III		✓	✓	

5850

Table AB.1: Surface *Water*^ Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values								
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
	Tidal Rangitikei (Rang_4b)	Rangitikei River at approx. NZMS 260 S24:991-984 to McKelvies at approx. NZMS 260 S24:033-985 (excluding the mainstem of the Rangitikei River from the cross-river CMA boundary at NZMS 260 S23:2700960-6100119 seawards)	LM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		III		✓	✓	
	Porewa (Rang_4c)	Porewa Stream from Rangitikei River confluence at approx. NZMS 260 S23:190-212 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓								✓	✓	✓	
	Tutaenui (Rang_4d)	Tutaenui Stream from Rangitikei River confluence at approx. NZMS 260 S23:101-095 to source	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓							✓	✓	
Upper Whanganui (Whai_1)	Upper Whanganui (Whai_1)	Whanganui River from Whakapapa River confluence at approx. NZMS 260 S19:189-499 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓	✓		
Cherry Grove (Whai_2)	Cherry Grove (Whai_2a)	Whanganui River from Cherry Grove at approx. NZMS 260 S18:057-545 to Whakapapa River confluence at approx. NZMS 260 S19:189-499	UVM	✓	✓	✓	✓	✓	✓	✓	✓							III	✓	✓	✓	
	Upper Whakapapa (Whai_2b)	Whakapapa River from Footbridge at approx. NZMS 260 S19:226-293 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II/III	✓	✓		
	Lower Whakapapa (Whai_2c)	Whakapapa River from Whanganui River confluence at approx. NZMS 260 S19:189-499 to Footbridge at approx. NZMS 260 S19:226-293	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II/III	✓	✓		
	Piopiotea (Whai_2d)	Piopiotea Stream from Whakapapa River confluence at approx. NZMS 260 S19:174-356 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓	✓		
	Pungapunga (Whai_2e)	Pungapunga River from Whanganui River confluence at approx. NZMS 260 S18:124-546 to source	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓	✓		
	Upper Ongarue (Whai_2f)	Ongarue River from Waihuka Stream confluence at approx. NZMS 260 S18:108-785 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					II/III	✓	✓		

5851

Table AB.1: Surface *Water*^ Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
	Lower Ongarue (Whai_2g)	Ongarue River from Whanganui River confluence at approx. NZMS 260 S18:056-547 to Waihuka Stream confluence at approx. NZMS 260 S18:108-785	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓			
Te Maire (Whai_3)	Te Maire (Whai_3)	Whanganui River from Te Maire at approx. NZMS 260 S19:998-490 to Cherry Grove at approx. NZMS 260 S18:057-545	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III			✓	
Middle Whanganui (Whai_4)	Middle Whanganui (Whai_4a)	Whanganui River from Retaruke River confluence at approx. NZMS 260 R19:886-306 to Te Maire at approx. NZMS 260 S19:998-490	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III				
	Upper Ohura (Whai_4b)	Ohura River from Tokorima at approx. NZMS 260 R18:863-521 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓								✓		
	Lower Ohura (Whai_4c)	Ohura River from Whanganui River confluence at approx. NZMS 260 R19:887-386 to Tokorima at approx. NZMS 260 R18:863-521	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓										
	Retaruke (Whai_4d)	Retaruke River from Whanganui River confluence at approx. NZMS 260 R19:890-309 to source	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓			
Pipiriki (Whai_5)	Pipiriki (Whai_5a)	Whanganui River from Pipiriki at approx. NZMS 260 R21:859-897 to Retaruke River confluence at approx. NZMS 260 R19:886-306	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III				
	Tangarakau (Whai_5b)	Tangarakau River from Whanganui River confluence at approx. NZMS 260 R20:714-175 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
	Whangamomona (Whai_5c)	Whangamomona River from Whanganui River confluence at approx. NZMS 260 R20:731-130 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
	Upper Manganui o te Ao (Whai_5d)	Manganui o te Ao River from Makatote River confluence at approx. NZMS 260 S20:129-120 to source	UVA	✓	✓	✓			✓	✓	✓	✓	✓					I				
	Makatote (Whai_5e)	Makatote River from Manganui o te Ao River confluence at approx. NZMS 260 S20:129-120 to source	UVA	✓	✓	✓			✓	✓	✓	✓	✓					I	✓			
	Waimarino (Whai_5f)	Waimarino Stream from Makatote River confluence at approx. NZMS 260 S20:129-120 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					I				

5852

Table AB.1: Surface *Water*^ Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
	Middle Manganui o te Ao (Whai_5g	Manganui o te Ao River from Hoihenga Road at approx. NZMS 260 S20:047-077 to Makatote River confluence at approx. NZMS 260 S20:129-120	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					I	✓			
	Mangaturuturu (Whai_5h)	Mangaturuturu River from Manganui o te Ao River confluence at approx. NZMS 260 S20:057-067 to source	UVA	✓	✓	✓			✓	✓	✓	✓	✓					I				
	Lower Manganui o te Ao (Whai_5i)	Manganui o te Ao River from Whanganui River confluence at approx. NZMS 260 R20:861-979 to Hoihenga Road at approx. NZMS 260 S20:047-077	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					I	✓			
	Orautoha (Whai_5j)	Orautoha Stream from Manganui o te Ao River confluence at approx. NZMS 260 S20:026-067 to source	UVM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					I	✓			
Paetawa (Whai_6)	Paetawa (Whai_6)	Whanganui River from Paetawa at approx. NZMS 260 S22:937-566 to Pipiriki at approx. NZMS 260 R21:859-897	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III		✓		
Lower Whanganui (Whai_7)	Lower Whanganui (Whai_7a)	Whanganui River from Aramoho Bridge at approx. NZMS 260 R22:858-420 to Paetawa at approx. NZMS 260 S22:937-566	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		III			✓	
	Coastal Whanganui (Whai_7b)	Whanganui River at approx. NZMS 260 R22:797-328 to Aramoho Bridge at approx. NZMS 260 R22:858-420 (excluding the mainstem of the Whanganui River from the cross-river CMA boundary at NZMS 260 R22:2684857-6138015 seawards)	LM	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		III			✓	
	Upokongaro (Whai_7c)	Upokongaro River from Whanganui River confluence at approx. NZMS 260 S22:908-463 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓		✓									
	Matarawa (Whai_7d)	Matarawa River from Whanganui River confluence at approx. NZMS 260 R22:857-403 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓					✓	
Upper Whangaehu (Whau_1)	Upper Whangaehu (Whau_1a)	Whangaehu River from Karioi at approx. NZMS 260 S21:218-864 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								✓

5853

Table AB.1: Surface *Water*^A Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values								
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
	Waitangi (Whau_1b)	Waitangi Stream from Whangaehu River confluence at approx. NZMS 260 T21:316-888 to source	UVM	✓	✓	✓	✓	✓	✓	✓	✓							III	✓	✓		✓
	Tokiahuru (Whau_1c)	Tokiahuru Stream from Whangaehu River confluence at approx. NZMS 260 S21:219-865 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				III	✓			✓
Middle Whangaehu (Whau_2)	Middle Whangaehu (Whau_2)	Whangaehu River from Aranui at approx. NZMS 260 S21:175-627 to Karioi at approx. NZMS 260 S21:218-864	HSS	✓	✓	✓	✓	✓	✓	✓	✓											✓
Lower Whangaehu (Whau_3)	Lower Whangaehu (Whau_3a)	Whangaehu River from Kauangaroa at approx. NZMS 260 S22:045-397 to Aranui NZMS 260 S21:175-627 (including the Mangawhero River from Whangaehu River confluence to Raupiu Road at approx. NZMS 260 S21:099-646)	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III			✓	✓
	Upper Makotuku (Whau_3b)	Makotuku River from water supply weir at approx. NZMS 260 S20:103-011 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓						III	✓	✓		✓
	Lower Makotuku (Whau_3c)	Makotuku River from Mangawhero River confluence at approx. NZMS 260 S20:080-903 to water supply weir at approx. NZMS 260 S20:103-011	UVA	✓	✓	✓	✓	✓	✓	✓	✓							III	✓			✓
	Upper Mangawhero (Whau_3d)	Mangawhero River from Makotuku River confluence at approx. NZMS 260 S20:080-903 to source	UVA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓	✓	✓	✓
	Lower Mangawhero (Whau_3e)	Mangawhero River from Raupiu Road at approx. NZMS 260 S21:099-646 to Makotuku River confluence at approx. NZMS 260 S20:080-903	HSS	✓	✓	✓	✓	✓	✓	✓	✓		✓					III				✓
	Makara (Whau_3f)	Makara Stream from unnamed tributary confluence at approx. NZMS 260 S20:065-992 to source	UVA	✓	✓	✓			✓	✓	✓	✓						III	✓			✓
Coastal Whangaehu (Whau_4)	Coastal Whangaehu (Whau_4)	Whangaehu River at approx. NZMS 260 R23:890-275 to Kauangaroa at approx. NZMS 260 S22:045-397 (excluding the mainstem of the Whangaehu River from the cross-river CMA boundary at NZMS 260 S23:2690359-6128748 seawards)	HSS	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓					✓	

5854

Table AB.1: Surface *Water*^ Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
Turakina (Tura_1)	Upper Turakina (Tura_1a)	Turakina River from Otairi at approx. NZMS 260 S22:236-471 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓										
	Lower Turakina (Tura_1b)	Turakina River at approx. NZMS 260 S23:924-231 to Otairi at approx. NZMS 260 S22:236-471 (excluding the mainstem of the Turakina River from the cross-river CMA boundary at NZMS 260 S23:2692145-6125465 seawards)	HSS	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓							✓	
	Ratana (Tura_1c)	Lakes Waipu and Oraekomiko and all surrounding catchment area	LM	✓	✓	✓	✓	✓	✓	✓	✓											
Ohau (Ohau_1)	Upper Ohau (Ohau_1a)	Ohau River from Rongomatane at approx. NZMS 260 S25:072-577 to source	UHS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					III	✓	✓	✓	✓
	Lower Ohau (Ohau_1b)	Ohau River at approx. NZMS 260 S25:918-578 to Rongomatane at approx. NZMS 260 S25:072-577 (excluding the mainstem of the Ohau River from the cross-river CMA boundary at NZMS 260 S25:2692921-6059503 seawards)	HM	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		III	✓	✓	✓	✓
Owahanga (Owha_1)	Owahanga (Owha_1)	Owahanga River at approx. NZMS 260 U25:932-532 to source (excluding the mainstem of the Owahanga River from the cross-river CMA boundary at NZMS 260 U25:2792204-6053185 seawards)	HSS	✓	✓	✓	✓	✓	✓	✓	✓		✓									
East Coast (East_1)	East Coast (East_1)	Wainui, Tautane and Waimata - whole catchments (excluding the mainstem of the Wainui River from the cross-river CMA boundary at NZMS 260 V24:2811596-6073518 seawards)	HSS	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓								
Akitio (Akit_1)	Upper Akitio (Akit_1a)	Akitio River from Weber Road at approx. NZMS 260 U24:919-832 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓		✓								✓	
	Lower Akitio (Akit_1b)	Akitio River at approx. NZMS 260 U25:992-610 to Weber Road at approx. NZMS 260 U24:919-832 (excluding the mainstem of the Akitio River from the cross-river CMA boundary at NZMS 260 U25:2799657-6061852 seawards)	HSS	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓					✓	

5855

Table AB.1: Surface *Water*^ Management Values by *Sub-zone**

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
	Waihi (Akit_1c)	Waihi Stream from Akitio River confluence at approx. NZMS 260 U24:895-801 to source	HSS	✓	✓	✓	✓	✓	✓	✓	✓									✓		
Northern Coastal (West_1)	Northern Coastal (West_1)	All coastal catchments and dune lakes between Kai Iwi and Waitotara catchments	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓						
Kai Iwi (West_2)	Kai Iwi (West_2)	Kai Iwi Stream at approx. NZMS 260 R23:723-449 to source (excluding the mainstem of the Kai Iwi Stream from the cross-river CMA boundary at NZMS 260 R22:2672262-6145059 seawards)	HSS	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓						
Mowhanau (West_3)	Mowhanau (West_3)	Mowhanau Stream at approx. NZMS 260 R22:725-447 to source (excluding the mainstem of the Mowhanau Stream from the cross-river CMA boundary at NZMS 260 R22:2672640-6144895 seawards)	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓						
Kaitoke Lakes (West_4)	Kaitoke Lakes (West_4)	Lakes Kaitoke, Pauri, Wiritoa, Kohata and all surrounding catchment area	LM	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓		III				
Southern Whanganui Lakes (West_5)	Southern Whanganui Lakes (West_5)	Lakes Vipan, Heaton, Bernard, William, Herbert, Hickson, Alice, Koitiata, Dudding and all surrounding catchment area	LS	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓					✓	
Northern Manawatu Lakes (West_6)	Northern Manawatu Lakes (West_6)	All lakes and lagoons between Coastal Rangitikei and Coastal Manawatu and all surrounding catchment area	LS	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓					✓	
Waitarere (West_7)	Waitarere (West_7)	All lakes and lagoons between Coastal Manawatu and Lake Horowhenua catchment and all surrounding catchment area	LS	✓	✓	✓	✓	✓	✓	✓	✓											
Lake Papaitonga (West_8)	Lake Papaitonga (West_8)	Lake Papaitonga catchment	LS	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓					✓	✓

5856

Table AB.1: Surface *Water*^ Management Values by *Sub-zone

*Water Management Zone**	*Sub-zone**	*Sub-zone** Description[1]	Zone-wide Values										Site/ Reach-specific Values									
			LSC	AE	CR	Mau	IA[2]	I[2]	SW	EI	CAP[3]	NS	SOS-A	SOS-R	IS	WM	SOS-C	TF	TS	WS	FC/D	DFS
Waikawa (West_9)	Waikawa (West_9a)	Waikawa Stream at approx. NZMS 260 S25:908-548 to source (excluding the mainstem of the Waikawa Stream from the cross-river CMA boundary at NZMS 260 S25:2691531-6055429 seawards)	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						✓	✓	✓
	Manakau (West_9b)	Manakau Stream from Waikawa Stream confluence at approx. NZMS 260 S25:946-549 to source	HM	✓	✓	✓	✓	✓	✓	✓	✓	✓									✓	✓
Lake Horowhenua (Hoki_1)	Lake Horowhenua (Hoki_1a)	Whole lake catchment above Hokio Stream outlet	LM	✓	✓	✓	✓	✓	✓	✓	✓		✓								✓	✓
	Hokio (Hoki_1b)	Hokio Stream downstream of Lake Horowhenua outlet (excluding the mainstem of the Hokio Stream from the cross-river CMA boundary at NZMS 260 S25:2694967-6065799 seawards)	LS	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓					✓	✓

[Formerly POP Table D.2 at D-3 to D-10]

5857

Domestic Food Supply (DFS) Value

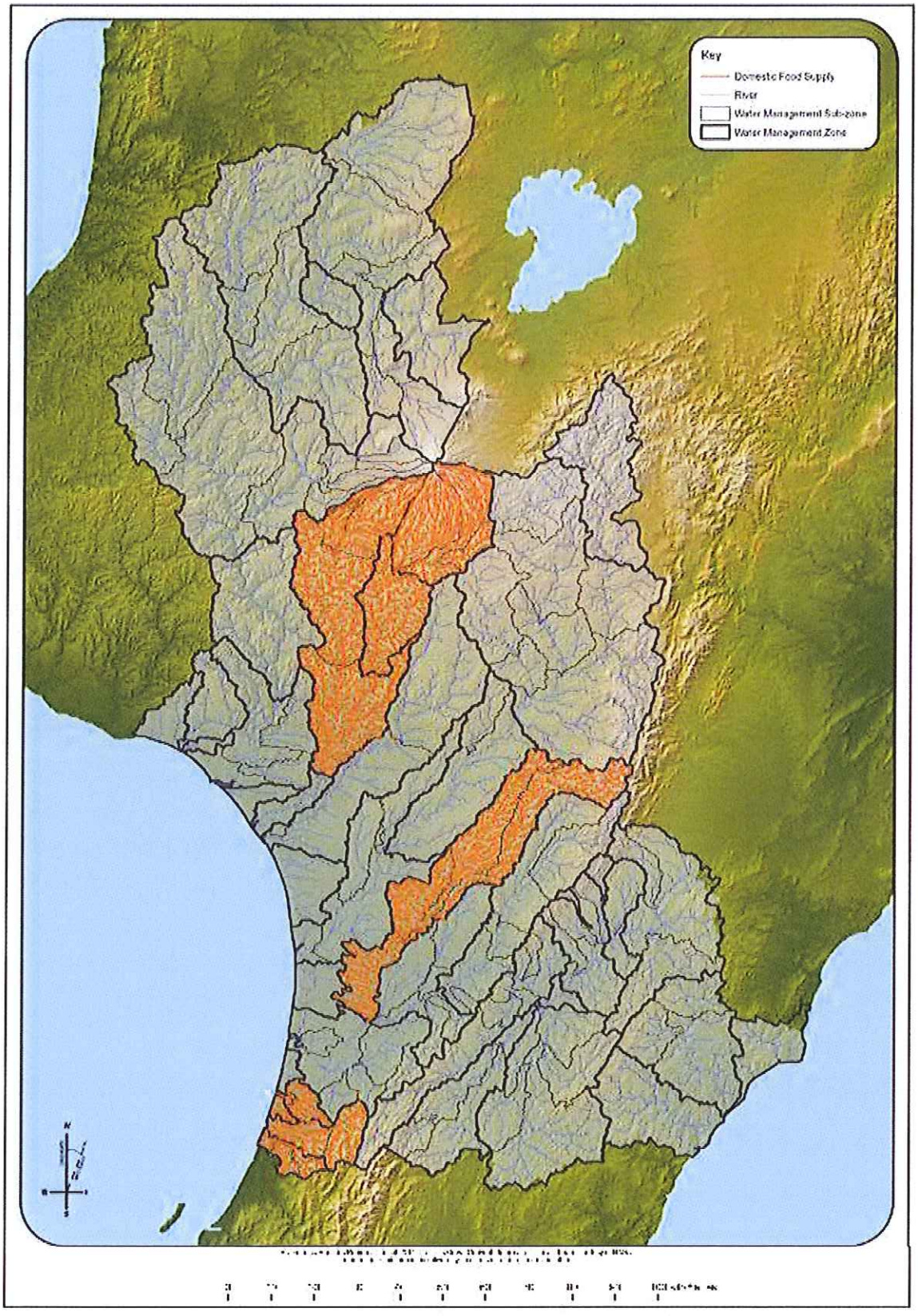

Figure AB: 12 Visual Guide to the Distribution of the Domestic Food Supply (DFS) Value

Table AB.12: Domestic Food Supply (DFS) Value in the Region				
*Water Management Zone**	*Sub-zone**	*River^*	Description	Domestic Food Supply Value
Oroua (Mana_12)	Upper, Middle and Lower Oroua and Kiwitea and Makino (Mana_12a, Mana_12b, Mana_12c, Mana_12d and Mana_12e)	Oroua River and tributaries	From Manawatu River confluence at approx. NZMS 260 S24:167-826 to source	Seed potato production
Upper Whangaehu (Whau_1)	Upper Whangaehu, Waitangi and Tokiahuru (Whau_1a, Whau_1b and Whau_1c)	Whangaehu River and tributaries	From Karioi at approx. NZMS 260 S21:218-864 to source	Vegetable production
Middle Whangaehu (Whau_2)	Middle Whangaehu (Whau_2)	Whangaehu River and tributaries	From Aranui at approx. NZSM 260 S21:175-627 to Karioi at approx. NZSM 260 S21:218-864	Vegetable production
Lower Whangaehu (Whau_3)	Lower Whangaehu, Upper and Lower Makotuku, Upper and Lower Mangawhero , and Makara (Whau_3a, Whau_3b, Whau_3c, Whau_3d, Whau_3e and Whau_3f)	Whangaehu River and tributaries	From Kauangaroa at approx. NZMS 260 S22:045-397 to Aranui at approx. NZSM 260 S21:175-627	Vegetable production
Ohau (Ohau_1)	Upper and Lower Ohau (Ohau_1a and Ohau_1b)	Ohau River and triburaries	From approx. NZMS 260 S25:918-578 to source (excluding the mainstem of the Ohau River from the cross-river CMA boundary at NZMS 260 S25:2692921-6059503 seawards)	Vegetable production
Lake Papaitonga (West_8)	Lake Papaitonga (West_8)	Lake Papaitonga and tributaries and Waiwiri Stream	Lake Papaitonga catchment and Waiwiri Stream	Vegetable production
Waikawa (West_9)	Waikawa and Manakau (West_9a and West_9b)	Waikawa Stream and tributaries	From approx. NZMS 260 S25:908-548 to source (excluding the mainstem of the Waikawa Stream from the cross-river CMA boundary at NZMS 260 S25:2691531-6055429 seawards)	Vegetable production
Lake Horowhenua (Hoki_1)	Lake Horowhenua (Hoki_1a)	Lake Horowhenua and tributaries and Hokio Steam	Lake Horowhenua Catchment and Hokio Stream (ecluding the mainstem of the Hokio Stream from the cross-river CMA boundary at NZMS 260 S25:2694967-6065799 seawards) .	Vegetable production

5860

Part AB.3: Surface *Water*^ Management Values Key: showing the management objectives, where the Values apply and where to find them in Schedule AB

Value Group	Individual Values		Management Objective	Where it applies	Location in Schedule AB
Ecosystem Values	NS	Natural State	The *river*^ and its *bed*^ are maintained in their natural state	Public Conservation Land	Figure AB:2 page AB-24 and Table AB.2 page AB-25
	LSC	Life-supporting Capacity	The *water body*^ and its *bed*^ support healthy aquatic life/ecosystems	All natural *water bodies*^ and their *beds*^ (8 LSC classes)	Figure AB:1 page AB-18
	SOS-A	Sites of Significance - Aquatic	Sites of significance for indigenous aquatic biodiversity are maintained or enhanced	Specified sites/reaches	Figure AB:3 page AB-27 and Table AB.3 pages Ba-28 to AB-38
	SOS-R	Sites of Significance - Riparian	Sites of significance for indigenous riparian biodiversity are maintained or enhanced	Specified sites/reaches	Figure AB:4 page AB-40 and Table AB.4 pages AB-41 to AB-43
	IS	Inanga Spawning	The *water body*^ and its *bed*^ sustain healthy inanga spawning and egg development	Specified sites/reaches	Figure AB:5 page AB-48 and Table AB.5 pages AB-49 to AB-50
	WM	*Whitebait** Migration	The *water body*^ and its *bed*^ are maintained or enhanced to provide safe passage of inwardly migrating juvenile native fish known collectively as *whitebait**	Specified sites/reaches	Figure AB:6 page AB-56 and Table AB.6 pages AB-57 to AB-59
Recreational and Cultural Values	CR	Contact Recreation	The *water body*^ and its *bed*^ are suitable for contact recreation	All natural *water bodies*^ and their *beds*^	
	Mau	*Mauri**	The *mauri** of the *water body*^ and its *bed*^ is maintained or enhanced	All natural *water bodies*^ and their *beds*^	
	SOS-C	Sites of Significance - Cultural	Sites of significance for cultural values are maintained	Specified sites for the Manawatu River in Mana_10a, 11a, 13a and 13f	Figure AB:7 page AB-60 and Table AB.7 pages AB-61 to AB-62
	TF	Trout Fishery	The *water body*^ and its *bed*^ sustain healthy rainbow or brown trout fisheries	Specified zones/reaches (3 categories)	Figure AB:8 page AB-64 and Table AB.8 pages AB-65 to AB-72
	TS	Trout Spawning	The *water body*^ and its *bed*^ meet the requirements of rainbow and brown trout spawning and larval and fry development	Specified sites/reaches	Figure AB:9 page AB-74 and Table AB.9 pages AB-75 to AB-85
	AE	Aesthetics	The aesthetic values of the *water body*^ and its *bed*^ are maintained or enhanced	All natural *water bodies*^ and their *beds*^	
Water^ Use	WS	*Water*^ Supply	The *water*^ is suitable, after treatment, as a drinking *water*^ source for human consumption	Catchments above surface *water*^ takes for community *water*^ supply	Figure AB:10 page AB-87 and Table AB.10 pages AB-88 to AB-94
	IA	Industrial Abstraction	The *water*^ is suitable as a *water*^ source for industrial abstraction or use, including for hydroelectricity generation	All natural *water bodies*^ except those classified as NS and those identified as zero allocation *Water Management Zones** or *Sub-zones** (other than the Upper Moawhango (Rang 2c) Water Management Sub-Zone) in Schedule B	
	I	Irrigation	The *water*^ is suitable as a *water*^ source for irrigation	All natural *water bodies*^ except those classified as NS and those identified as zero allocation *Water Management Zones** or *Sub-zones** in Schedule B	
	SW	Stockwater	The *water*^ is suitable as a supply of drinking *water*^ for livestock	All *water bodies*^ including artificial	
	DFS	Domestic Food Supply	The *water*^ is suitable for domestic food production.	Specified water management sub-zones West_8, West_9, Hoki_1, Ohau_1, Whau_1, Whau_2, Whau_3 and Mana_12	New Figure AB: (new) New Table AB:10A: pages AB- to AB-
Social/ Economic Values	CAP	Capacity to Assimilate Pollution	The capacity of a *water body*^ and its *bed*^ to assimilate pollution is not exceeded	All natural *water bodies*^ and their *beds*^ except NS	
	FC/D	Flood Control and Drainage	The integrity of existing flood and *river*^ bank erosion protection *structures*^ and existing drainage *structures*^ is not compromised	Existing flood/ erosion control and drainage schemes	Figure AB:11 page AB-95 and Table AB.11 pages AB-96 to AB-120
	EI	Existing *Infrastructure*^	The integrity of existing *infrastructure*^ is not compromised	This applies in the general vicinity of any existing *infrastructure*^ such as roads, culverts, bridges, *water*^ intakes, *discharge*^ pipes, flow recording stations and gas pipelines	

[Formerly POP at D-1 to D-2]

Surface *Water*^ Management Values Classification Sub-code Key

Value		Classification Sub-codes
LSC	Life-supporting Capacity	**UHS:** Upland Hard Sedimentary **UVA:** Upland Volcanic Acidic **UVM:** Upland Volcanic Mixed **UII:** Upland Limestone **HM:** Hill Mixed **HSS:** Hill Soft Sedimentary **LM:** Lowland Mixed **LS:** Lowland Sand
TF	Trout Fishery	I: Outstanding II: Regionally Significant III: Other Trout Fishery

[Formerly POP at D-3]