

BEFORE THE ENVIRONMENT COURT
AT WELLINGTON

I TE KŌTI TAIAO O AOTEAROA
TE WHANGANUI-A-TARA ROHE

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of appeals under Clause 14 of Schedule 1 of the
Resource Management Act 1991 against the decision
of the Manawatū-Whanganui Regional Council on
Proposed Plan Change 2 (“PC2”) to the Manawatū-
Whanganui Regional One Plan (“One Plan”)

BETWEEN

TE RŪNANGA O RAUKAWA
(ENV-2021-WLG-00020)

NGĀTI TURANGA
(ENV-2021-WLG-00021)

ANDREW DAY
(ENV-2021-WLG-00022)

WELLINGTON FISH AND GAME COUNCIL
(ENV-2021-WLG-00023)

Appellants

AND

MANAWATŪ-WHANGANUI REGIONAL COUNCIL

Respondent

SUPPLEMENTARY EVIDENCE OF MICHAEL SCOTT

FOR ANDREW DAY

(Planning)

Dated: 28 March 2024

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1. **INTRODUCTION AND PURPOSE**

- 1.1 My full name is Michael John Scott. I am a Principal Planner at the Catalyst Group.
- 1.2 I filed a statement of primary evidence dated 6 November 2023. A version of the proposed plan provisions with my recommended amendments at that time was provided in Attachment A to that statement ("**Appellant V1 Provisions**").
- 1.3 Since my primary evidence was filed with the Court, I prepared with Mr Carlyon an updated version of the proposed plan provisions with changes to my recommended amendments made in light of the issues raised during the first hearing week. This was introduced to the Court by Mr Carlyon on the first day of the second hearing week ("**Appellant V2 Provisions**").
- 1.4 My qualifications and experience are as set out in my primary evidence. I again confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses as contained in the Environment Court's Practice Note 2023 and further confirm that I have complied with it in preparing this statement of supplementary evidence. It remains true that I have no conflicts of interest to declare.
- 1.5 This statement of supplementary evidence:
- a. Sets out my recommendations for how the planning framework should manage updates to OVERSEER and implications of this for the cumulative nitrogen leaching maximums ("**CNLM**") in Table 14.2, and explains the rationale for these. My recommendations have been reviewed by Dr Dewes and I understand she considers they are clear and workable from a farm systems perspective. These recommendations are provided in accordance with para 1(b) of the Court's Minute dated 1 March 2024. I have also commented on any differences or similarities between my recommendations and those in Ms Foster's supplementary evidence dated 18 March 2024. I have also read the supplementary evidence of Prof Horne and Dr Snelder dated 18 March 2024 and have considered their evidence in making these recommendations.

- b. Also set out other recommended amendments proposed in light of the 18 March supplementary evidence and the supplementary evidence filed before the second hearing week (in December 2023, January 2024, February 2024), and the issues discussed during the second hearing week. Most of these amendments are the same as those proposed in the Appellant V2 Provisions. In some cases I have made adjustments to these. I explain the rationale for all changes made.
- c. Provides in **Appendix 1** an updated set of recommended plan provisions. I refer to these provisions as the **Day V3 Provisions**.
- d. Provides a s 32AA assessment of the Day V3 Provisions.

2. RECOMMENDED AMENDMENTS TO MANAGE UPDATES TO OVERSEER

The challenge

- 2.1 As emerged in the second week of the hearing, previous recommendations regarding the approach for dealing with updates to OVERSEER did not adequately provide for the situation where:¹
 - a. a different, updated version of OVERSEER is used to estimate on-farming leaching than that used to derive the CNLMs in Table 14.2; and
 - b. nitrogen leaching estimates using the updated version of OVERSEER show that the farm does not exceed the CNLMs; but
 - c. if the CNLM had been recalibrated using that same updated version of OVERSEER, and nitrogen leaching estimates using the updated version of OVERSEER were compared against those recalibrated CNLMs, the farm would actually exceed the CNLMs.
- 2.2 This is a problem because it would mean that farms that do not in fact meet the controlled activity standards because their leaching is too high, would nevertheless qualify as a controlled activity. As Prof Horne has explained this means that those farms would either have to adopt lesser or no on farm practice change to reduce leaching.² This is essentially the reverse of the issue that prompted PC2, where the version of OVERSEER being used by farms to estimate

¹ Prof Horne has described the issue in the same way at para 4 of his supplementary evidence 18 March 2024.

² Para 14 Prof Horne supplementary evidence 18 March 2024.

nitrogen leaching was producing numbers above the CNLMs when, for some farms, if the same version of Overseer was used as between the CNLMs and to estimate on-farm leaching, they would have met the CNLMs.

- 2.3 I continue to believe that the use of either of the two alternative pathways as controlled activities (either the specified reductions pathway or the nitrogen risk assessment tool (“**NRAT**”) would be inappropriate and would produce outcomes inconsistent with the philosophical underpinnings and policy direction of Chapter 5 RPS and Chapter 14 regional plan, for reasons detailed in my primary evidence.
- 2.4 I also believe that using Table 14.2 together with either tool would similarly result in less alignment between the rules and the philosophical underpinnings and policy direction of Chapters 5 and 14.
- 2.5 My opinion remains that the only controlled activity pathway should be adherence with the CNLMs in Table 14.2 or their equivalents. It is therefore very important that the provisions regarding OVERSEER are coherent, robust and workable, whether the numbers derived from the updated versions go up or down.
- 2.6 My understanding from the farm systems experts is that OVERSEER is the best tool available for estimating nitrogen leaching, when the CNLMs referred to in Table 14-2 are derived using the same version of OVERSEER as that applicants are using to estimate nitrogen leaching from their farms.
- 2.7 To my mind, the principal challenge before the Court is therefore to amend the plan in such a way that it remains useable in the period between a future update to OVERSEER (whether nitrogen leaching projections go up or down) and a plan change to recalibrate the CNLMs in Table 14-2 to align with the updated version of OVERSEER. For it to remain useable, the plan must ensure that nitrogen leaching estimates for a given farm and the CNLMs against which estimates are being assessed are comparable. For them to be comparable, they must be determined using the same version of OVERSEER.
- 2.8 In her supplementary evidence of 18 March, Ms Foster discusses the OVERSEER update problem at length. I believe the following points are the key elements from that evidence, and to the extent that they are, I agree with them:

- a. Previous recommendations to the Court relating to amended provisions only anticipated that reference file values would increase following OVERSEER updates;
- b. Where the values decrease, a different but equally important set of problems are created;
- c. The OVERSEER version is automatically updated for users and they no longer have access to old versions;
- d. It is therefore not possible to “lock in” a version of OVERSEER for the purposes of the plan;
- e. The plan cannot contain reference to methodologies that sit outside the plan, and which then change; and
- f. The plan is effective, equitable and transparent only where the same version of OVERSEER is used to set the limits as is used to estimate on-farm nitrogen loss.

The solution

- 2.9 To date, the Council has proposed (and all parties have agreed to) the use of a reference file system to ensure that the CNLMs in Table 14.2 can easily be recalculated following an OVERSEER update, to determine what the CNLMs would be if derived using that updated version of OVERSEER. This process means that leaching estimates can be compared against a ‘matching’ version of the CNLMs (i.e. a version of the CNLMs derived using the same version of OVERSEER). Prof Horne has confirmed this in his supplementary evidence of 18 March 2024 at paras 37-39. I understand from his evidence that this recalculation process is quick and straightforward (para 39).
- 2.10 I agree with Ms Foster that the reference file system can and should be used to manage consent applications following updates to OVERSEER, and I believe this can be done efficiently and equitably, holding all applicants to the same standard whether or not Table 14.2 reflects the most up-to-date version of OVERSEER and whether updates result in leaching estimates going up or down.

- 2.11 I note that Prof Horne has confirmed in his supplementary evidence 18 March 2024 that the reference file system can be used whether estimates go up or down (para 39).
- 2.12 I agree with Ms Foster that the methodology for the reference file system should be brought into the plan, in order to ensure that it is transparent, clear, objective and provides parity across different versions of OVERSEER. It does this by providing the base files upon which the CNLMs are calculated, which are the basis for the standard to which applications are held. When the OVERSEER version changes, the reference file system ensures that, while the numbers may have changed, applications are being held to the same standard as previously.
- 2.13 I also recommend adding Policy direction to explain that use of the reference file system and to enable decision-makers to use the reference file system to maintain that parity by comparing figures using the same version of OVERSEER.
- 2.14 As pointed out by Ms Foster, the most common planning response to an issue such as this would be to require that the version of OVERSEER used in the One Plan and for the purpose of estimating nitrogen leaching in accordance with the One Plan be “locked in” and that future updates be prevented until such time as a plan change can be made to update Table 14-2. Therefore, if Table 14.2 had used version 6.2.5 of Overseer, the estimates for a resource consent application would have to use the same version, even if there had subsequently been an update to v6.2.6 or 6.3.1.
- 2.15 This is a generally orthodox approach to the use of standards in a resource management plan. If the plan refers to NZS 6803:1999 for management of construction noise, then that is the standard to which activities must adhere, until such time as a plan change updates the reference to that standard with a revised NZS6803.
- 2.16 While I accept that such an approach would be workable in theory, as mentioned above it would not work in practice for several reasons, and would not be my recommendation to the Court. This is because it would rely on OVERSEER making changes to its software to either preserve historic versions of OVERSEER or prevent future updates for the Manawatu-Whanganui Region which are things it does not currently do, and indeed I am not sure can be done. Ms Foster has also identified this issue as preventing a locked-OVERSEER version

approach in this case.³ Even if doable it would also prevent leaching from being estimated using the latest scientific understanding of nitrogen dynamics in the soil. Finally, such as approach does not take advantage of the flexibility and equitability across versions that the reference file system was intended to provide. Indeed, in the example above of changing versions of a NZ standard, there is no mechanism like the reference file system to ensure that rates and metrics remain equivalent across different versions, and that is the reason why updates require a plan change.

- 2.17 The alternative approach, and the approach I recommend, uses the reference file system to ensure that decision-makers are always comparing apples with apples.
- 2.18 This involves amending the policy direction to clarify that a controlled activity consent can be obtained where the estimate of nitrogen leaching for the applicant's farm is produced using the same version of OVERSEER as the one used to derive the CNLMs in Table 14-2, or the reference file equivalent in cases where there has been an update to OVERSEER. In that case, where the leaching is below the CNLMs for either Table 14.2 or the reference file equivalent, consent is guaranteed. As previously recommended by all parties, where estimates are over the CNLMs in Table 14.2 or the reference file equivalent, there is opportunity to apply for a discretionary activity consent.
- 2.19 It is important that applicants and decision-makers are comparing the projected leaching rates with CNLMs derived using the same version of OVERSEER. I agree with Ms Foster that it is not administratively efficient or effective to do a plan change every time there is an OVERSEER update.⁴
- 2.20 Therefore, in the event that OVERSEER is updated and the leaching estimates no longer align with the CNLMs in Table 14-2 (because they are being produced using a different version of OVERSEER), the decision-maker could refer instead to the reference file equivalent.
- 2.21 This is the key role of the reference file system, which allows for parity across different versions by maintaining the same standard for the CNLMs despite the numbers changing. That is, the reference file numbers reflect the updated

³ Para 24 of her supplementary evidence 18 March 2024.

⁴ Para 48 of her supplementary evidence 18 March 2024.

OVERSEER values for the same biophysical characteristics subject to the same inputs.

- 2.22 I have considered whether a restricted discretionary activity status would be more appropriate. I have concluded that the rule is sufficiently fair, unambiguous and objective in applying the same standard across different versions that I don't believe further assessment would be warranted.
- 2.23 If the Court is of a mind to have different settings for estimates prepared using a different version of OVERSEER than the one used in Table 14.2, I would recommend a restricted discretionary pathway for those applications that can meet the reference file equivalents for the CNLMs, with OVERSEER version updates the only matter of discretion.
- 2.24 Where a farms estimated leaching (using the updated version of OVERSEER) is above the reference files for that version of OVERSEER, the farmer would have the ability to apply for a discretionary activity consent just as a farm whose estimated leaching exceeded Table 14.2 would have. The consent application would need careful attention to look at what reduction in nitrogen leaching is possible and against all relevant policy direction, as set out in previous evidence.
- 2.25 Should the Court agree with that approach, I have prepared some amendments to the One Plan that I believe will incorporate the approach into the plan in a manner that efficiently and effectively achieves the objective of Chapter 14. The s32AA assessment supporting that conclusion is provided in Section 4 of this evidence.
- 2.26 The recommended changes to the provisions dealing with the OVERSEER version issue as well as other matters that arose during the hearing to date are shown in **Appendix 1** to this evidence.
- 2.27 The amendments in that appendix that deal with the misalignment in OVERSEER versions are explained below.

Chapter 5: abbreviation of Method 5-13 and a new Method 5-14

- 2.28 Method 5-13 has been pared back to focus on enabling Horizons to collate and disseminate information about other nitrogen loss models that will help support

and complement the use of OVERSEER as the primary assessment tool for nitrogen leaching.

- 2.29 Content previously in Method 5-13 relating to the reference file system is moved to a new method 5-14 which expands on my previous amendments to method 5-13. It adopts the structure used for methods elsewhere in the One Plan. The additional content proposed is taken from the s 42A reports of Prof Horne and Ms Foster and from the decisions report, I have included the relevant excerpts in **Appendix 2**. Method 5-14 details the process of Council maintaining and publishing the OVERSEER reference files. It also explains the use of those reference files in the assessment of applications where nitrogen leaching has been estimated using a different version of OVERSEER than the one used to derive the CNLMs in Table 14-2.
- 2.30 Ms Foster has recommended amendments at paras 42-43 of her 18 March 2024 supplementary evidence that I understand have a similar intent, but I do not think they provide enough detail given the significance of the issue and the importance of addressing it.
- 2.31 I do agree with Ms Foster regarding the amendment to the method in Chapter 5 (whether it be 5-13 or 5-14) to bring the methodology for the reference file system into the plan, and have also included a similar amendment in the Day V3 Provisions.
- 2.32 This method could also direct that Council periodically consider a plan change to realign Table 14-2 with the reference files. Given that the recommended approach provides for the plan to remain workable even following OVERSEER updates in future, I would suggest a very simple change to update only the numbers in Table 14.2 would be very straightforward and not create a backlog in processing as seen in the current situation. I would suggest the timeframe for an update could be every five years or where any of the numbers in Table 14.2 differ from the reference file equivalent by more than 3 kg N/ha/year (as suggested by Prof Horne) or perhaps more, since the plan would remain workable regardless.

Policy direction in Chapter 14

- 2.33 A new policy (14-X in the new set of provisions) directs that, in situations where the CNLMs in Table 14.2 and on-farm leaching estimates are out of alignment because they are derived using different versions of OVERSEER, then estimated on-farm nitrogen leaching needs to be assessed against a version of the CNLMs that have been derived using the reference file system for that same version of OVERSEER.
- 2.34 I note that the insertion of Policy 14-X would likely result in a number of the other provisions being renumbered. For ease of reference to different versions of the provisions, I have not done that renumbering in the latest version.
- 2.35 Policy 14-5(d) has been amended to add (i) and (ii), which now refer to the need for existing IFLUs to meet the CNLMs in Table 14-2 *or the equivalents produced from the reference files*. The renumbered 14-5(e) directs that new IFLUs are to be regulated in the same manner.
- 2.36 In addition to that, a new clause has been added to Policy 14-6(c)(vi) to direct that when issuing consents, the required reductions should be expressed as a percentage of the baseline level. In taking this approach, rather than using a fixed number, there will be no need to update consents with new numbers when there is an update to OVERSEER. It is also an acknowledgement of the guidance that it is better to use OVERSEER for relative reductions, rather than absolute numbers.
- 2.37 This percentage reduction approach differs from the specified reductions pathway introduced in the decisions version of PC2 in that it allows for a reduction that is appropriate to the application, after considering the matters in Policy 14-6(ba), rather than a generic fixed percentage applied across all farms.
- 2.38 A minor amendment is also recommended to the chapeau to Table 14-2, to state which OVERSEER version was used to derive the numbers in that table.

Controlled activity Rule 14-1

- 2.39 Finally, as already discussed, an amendment has been made in Rule 14.1, condition (c) to specify that the controlled activity pathway applies to applications where the application has been prepared using the same version of

OVERSEER as the one used to derive the numbers in Table 14-2 or to the reference file equivalents for the same version of OVERSEER as the one used to prepare the application.

- 2.40 This amendment means that there remains a controlled activity pathway for applications that meet the CNLMs regardless of OVERSEER updates, while also ensuring that applications are not processed in a way that is unfairly difficult or inappropriately easy due to a misalignment in the OVERSEER versions. In this way, the recommended amendments are considered to most effectively reflect the intent of the plan change.
- 2.41 I have given serious thought to the controlled activity amendment recommended by Ms Foster. Although I agree with the intent of the change, providing a safety clause to ensure that applications for controlled activities can't coast through with artificially low numbers based on OVERSEER version changes, I believe that approach has a number of limitations:
- 2.42 Firstly, it does not address the issue of OVERSEER version changes making controlled activities progressively more difficult to obtain if the nitrogen leaching estimates in future updates go up. This creates an equity issue as it will mean that access to the controlled activity pathway will become more and more limited, and is one of the key issues that this plan change was to address.
- 2.43 I understand that, in this situation, Ms Foster favours providing the alternative controlled activity pathways in order to provide applicants with an assured means of obtaining consent. I've stated elsewhere in my evidence that I disagree with both alternative pathways (for different reasons) and will not restate them here.
- 2.44 Secondly, there is no additional policy support for applicants who don't meet Table 14.2, but who would if it were updated to the same version as used in the application.
- 2.45 It is my opinion that, with Ms Foster's recommended addition to Method 5-13 (my Method 5-14) bringing the OVERSEER methodology into the plan, the outcome that provides the most fairness for the least regulatory burden is to allow the reference file system to perform its function in providing parity across different versions of OVERSEER.

Summary

- 2.46 Together, this suite of amendments ensures that applications are not expected to meet unjustifiably difficult leaching limits, nor are they provided with a pathway that is easier solely due to a version update (as was discussed in the second week of the hearing). Rather, leaching estimates are assessed against a version of the CNLMs that is comparable because both have been derived using the same version of OVERSEER.
- 2.47 This would ensure that applications are always assessed against the appropriate CNLMs in a manner that is fair, equitable, protects water quality, and provides certainty to all farms that have estimated leaching below the level set by the plan that consent will be granted.

3. OTHER RECOMMENDED AMENDMENTS TO PLAN PROVISIONS

- 3.1 In addition to the changes to attend to the emerging issue with workability of the OVERSEER version updates, the following are other amendments to the Appellant V1 Provisions. Where I still support the Appellant V2 Provisions I discuss these and these changes are included in the Day V3 Provisions appended to this evidence. Where I have recommended changes to the Appellant V2 Provisions I note this and discuss my changes. These are also shown in the Day V3 Provisions.

Structure

- 3.2 For clarity, the proposed amendments to Chapters 5 and 14 reflected in the Appellant V2 Provisions were the result of listening to the first week of the hearing and reflecting on the issues raised, and the matters attended to by the Court. The further amendments made in the Day V3 Provisions now proposed are a result of listening to the second hearing week and considering the supplementary evidence that has been filed.
- 3.3 In the Appellant V1 Provisions, I had used Ms Foster's preferred provisions as the starting point. However, after listening to the Court and re-reading the One Plan Decision, I took the approach in the Appellant V2 Provisions of going back to first principles, starting with the operative plan and only applying changes when I felt they were necessary for the purposes of the plan change. I have taken the same first-principles approach to the Day V3 Provisions.

- 3.4 I have presented the Day V3 Provisions on top of the operative One Plan text and on top of the decisions version text. Both are provided in **Appendix 1**.

Chapter 5

- 3.5 The changes made to Policy 5-8 ensure that the direction at RPS level makes it clear that even exceptions to the established CNLMs must not compromise the ability to meet the Chapter 5 policies and should be of short duration. I believe that, besides this and the minor addition of Policy 5-8(d) as covered in my primary evidence, no other changes are necessary in Policy 5-8 to achieve the intent of PC2.

Policy 14-5

- 3.6 The only changes made to this policy are those I have already discussed above in relation to managing upgrades to OVERSEER.

Policy 14-6

- 3.7 I have recommended changes to Policy 14-6 additional to those discussed above to manage updates to OVERSEER. These are discussed below.
- 3.8 As mentioned above, in the Appellant V2 Provisions and Day V3 Provisions, a first principles approach was applied and amendments made only to the extent necessary to achieve the goals of PC2. In these versions, the operative plan's structure of Policy 14-6 was maintained, with additional material added to insert policy considerations for decisions on those activities (Policy 14-6(ba)) and for imposing conditions (Policy 14-6(c)).
- 3.9 After reviewing the original Council preferred version alongside my own, and after listening to the first week of the hearing, I looked at whether it was possible to consolidate the relevant matters for consideration of activities above the CNLM threshold (and now also the reference file equivalents) into a single list. Policy 14-6(ba) represents a condensed version of the assessment criteria that I believe focuses only on the matters that should be brought to bear on relevant consent applications.
- 3.10 The additions to Policy 14-6(c) then include other matters the decision-maker should turn their attention to when drafting conditions. The new matters are the requirement to limit other types of contaminant from entering water, a limit

on the duration for consents exceeding the CNLMs (or reference file equivalents), a policy consideration regarding rotation of crops in commercial vegetable growing, and a direction that the reduction be expressed as a percentage of the baseline rate.

Duration

3.11 Though in a different place, I have retained the maximum 10 years duration for consents for IFLUs that exceed the CNLMs (or reference file equivalents). I continue to believe that this is appropriate for the reasons covered in my primary evidence:

- That it will incentivise farmers to seek controlled activity consents; and
- That it is important not to consent higher leaching levels for long periods due to the legacy effect and the ability in future to return waterways to a non-degraded state.

3.12 I have read Chapter 12, in particular the section relating to consent duration.⁵ I consider that my recommendation is consistent with the presumption in Chapter 12 that consents of activities required under ss 13-15 RMA will be granted for a 10 year duration (Policy 12-5(b)). Chapter 12 then provides for exceptions to that 10 year duration:

- enabling a longer duration, after the decision-maker considers specified criteria (Policy 12.5(b)i.-iv.); and
- enabling a shorter duration, after the decision-maker considers different, specified matters (Policy 12-5(c)).

3.13 I believe it would be problematic to rely only on this section to guide decision-makers on the appropriate term for consents for farms that do not meet the CNLMs (or reference file equivalents). This is because assessment against the criteria in Policy 12-5(b) may lead to divergent opinions and inconsistency in consent durations. I do not think this is efficient, effective, or consistent with sustainable management because when considered cumulatively over the broader WMSZ, consenting of leaching rates above the CNLMs (or reference file equivalents) may produce unpredictable levels of effects which are potentially

⁵ I note that all the initial common expiry and review dates in Table 12.1 have long since passed.

serious for downstream water quality. There is also a risk that Council may have more leeway to grant consent to activities at higher rates in the beginning, with considerable unpredictability as to how much allocation future applications will seek, or be granted. This raises equity issues on top of those already at play.

- 3.14 My recommended clause therefore applies a maximum 10 year consent term to those farms that do not meet the CNLMs (or reference file equivalents) due to the uncertainty of effects, uncertainty of allocation, in the interests of fairness to all applicants, and also to drive applicants to strive to meet the CNLMs (or reference file equivalents) in the first instance.
- 3.15 Under this approach the Council's ability to grant consent for a farm that does not meet the CNLMs (or reference file equivalents) for a lesser duration would be preserved. This would still be determined after considering the criteria in Policy 12-5(c). The Council's discretion over the duration of consent for farms meeting the CNLMs (or reference file equivalents) would continue to be exercised in accordance with Policy 12-5 as it currently is i.e. 10 year starting point, discretion to go up or down based on assessment of the relevant criteria/matters.

Non-intensive land uses

- 3.16 In the Appellant V2 Provisions, I previously recommended with Mr Carlyon that the exception in Policy 14-6(b)(i) require that the non-intensive farming land use to which an existing intensive farming land use is transitioning, needs to meet the CNLMs. After careful thought, I have now removed that reference, acknowledging that other land uses are not subject to this section of the plan. I continue to support a discretionary activity consent opportunity for farms looking to transition.
- 3.17 However, I want to highlight that the reason this was included in the Appellant V2 Provisions is that it is possible in some circumstances that non-IFLUs could leach at rates higher than the CNLMs (or reference file equivalents), and to me this goes against the intent of a policy framework enabling grant of consent for IFLUs where they plan to transition away from intensive land use. The lack of coverage for those activities in the plan underscores the need for a framework that is transferable to all potential sources of nitrogen leaching and to bring all other land uses into that framework. This is one of the benefits of the CNLMs

and Table 14.2. Because it is based on the underlying land resource not on land use type it would be transferrable to other land uses and/or into other catchments.

Reference to meeting CNLMs in discretionary consents

Exception for farms that do not meet the CNLMs or reference file equivalents

- 3.18 In the Appellant V2 Provisions I previously recommended with Mr Carlyon that the exception for farms that cannot meet the CNLMs in Table 14.2 (or reference file equivalents) is only available where the application shows “a trajectory toward meeting the cumulative nitrogen leaching maximums* within a reasonable timeframe is demonstrated”. This phrase has been removed in my latest set of provisions appended to this evidence (the Day V3 Provisions). The Day V3 Provisions now provide an exception where a farm shows a trajectory of leaching reductions. I have only made this change after careful thought. I ultimately decided to make it to avoid the situation of creating a ‘Prohibited Activity status by stealth’ as raised by the Court during the 2nd hearing week, and to avoid the circularity issue that prompted PC2 in the first place - that all roads lead to the CNLMs. However, although this means that all farms have a consenting pathway available to them, it is critical that this does not act as a guarantee consent will be granted.
- 3.19 However, I remain concerned, particularly given the history of the Council in this respect, that the pathway should not enable rubberstamping of consents at very high rates. This was one of the key drivers for including the requirement to show that the CNLMs would be met at some point in the Appellant V2 Provisions. So, in removing that wording, my expectation is that the remaining provisions are sufficiently directive that decision-makers (and indeed prospective applicants) understand that consent would be very unlikely to be granted where projected leaching rates remain well above the CNLMs (or reference file equivalents). If that is not the case, I would certainly support further amendments to that effect.
- 3.20 In regards to the need to show a trajectory of reductions, applicants for a controlled activity consent have a similar expectation on them, in terms of meeting the 10- and 20-year CNLMs (or reference file equivalents). For applicants whose nitrogen loss is greater, there should be a similar expectation to make progressive reductions in projected nitrogen loss. I would expect that

these reductions would be of a larger magnitude than the limits set out in the CNLMs (and their reference file equivalents) for lower levels of leaching.

Exceptions for farms that say they would meet the CNLMs but for uncertainties inherent in OVERSEER

- 3.21 The Appellant V2 Provisions included an exception that enabled an application to be made on the basis that a farm would meet the CNLMs but for uncertainties inherent in OVERSEER. By this I mean the potential for OVERSEER to overestimate leaching by virtue of the fact that it is a model trying to estimate a complex, real world environment. This was a key issue discussed in hot-tubbing and after listening to that hot-tubbing I consider it is important that this exception is included so applicants can make this case if they want to so as to respond to this matter.
- 3.22 I have therefore retained this exception in the Day V3 Provisions but have removed the phrase “toward meeting the cumulative nitrogen leaching maximums* within a reasonable timeframe”.
- 3.23 However, I continue to be concerned that this provides too much scope to consent activities well above the CNLMs (or reference file equivalents). However, I feel that on balance there is enough directive policy to ensure that this will not be the case.
- 3.24 I have also provided a pathway (in Policy 14-6(b)(ii)) for applicants who feel that OVERSEER is overestimating their nitrogen loss, and who can provide a robust argument that that is the case.
- 3.25 I have heard the evidence regarding uncertainties in OVERSEER. I recognise that there may be cases where the model is not accurately reflecting what happens on the ground despite, as Professor Horne has pointed out, it being the best model available for projecting nitrogen loss. The addition of Policy 14-6(b)(ii) provides applicants with an avenue to argue that their OVERSEER figures are overestimating nitrogen loss and the impact of their activity on the waterways in the catchment is significantly less than the model predicts. If applicants can make that case convincingly, then I believe they should have the opportunity to apply for consent.

4. SECTION 32AA ASSESSMENT

- 4.1 Further to the comments above, set out below is an assessment of the latest preferred provisions (Day V3 Provisions) against the requirements of s 32AA.
- 4.2 It is acknowledged that there was not a s 32AA assessment for the Appellant V2 Provisions. In addition, having read back over the Appellant V1 Provisions as provided in my primary evidence, I feel it might assist the court to have a slightly more fulsome assessment of all changes, and avoid the need to read across multiple documents. It is therefore intended that this s 32AA assessment can stand alone as an evaluation of the entirety of the amendments proposed in the Day V3 Provisions with comments where relevant regarding the alternative options (the operative One Plan, Council hearing decisions version, and the most up-to-date option preferred by the Council (which remains that produced during hearing week 1)).

Evaluation of the options

(a) Most appropriate to achieve the objectives of the One Plan

- 4.3 The freshwater provisions of the One Plan, both in the RPS and in Objective 14-1, recognise target catchments where water quality is degraded and set out a framework to reduce nitrogen leaching in order to restore them to a healthy state. That framework includes recognition that some land is more productive than other land and in order to maximise that productivity and the associated economic benefits to the region, soils with greater potential should be allocated a higher level of acceptable leaching.
- 4.4 The most appropriate provisions for this plan change must be those that ensure that this existing framework is adhered to (and not undermined). This means that the changes:
- a. ensure that in-plan limits (i.e. the CNLMs or their equivalents) are apportioned according to the natural capital of the land; and
 - b. ensure that the limits set out in the plan are generally adhered to; and
 - c. give existing farms with higher leaching rates an opportunity to make their case that they should nevertheless be able to continue with

assessment against policy that reflects this underlying framework, or to decide to change land use.

- 4.5 The provisions set out in **Appendix 1** are, in my opinion based on my understanding of the One Plan and farm systems evidence, the only provisions that preserve the specific natural capital approach adopted by the One Plan⁶ and that retain a methodology where the amount of nitrogen leaching from the regulated activities can be calculated on a catchment-wide scale. In that way they are the most appropriate provisions to deliver on Objective 14-1, and the higher order directions of Chapter 5.
- 4.6 As Dr Snelder has pointed out, the best option for water quality is strictly requiring all applicants to meet the CNLMs in Table 14-2 with second best option being to drive applicants as close as possible to those maximums. In addition, my proposed provisions provide the necessary policy support to decline applications where the land use is fundamentally ill-suited to the geophysical conditions of the land. In my opinion, the provisions advanced by Council will not achieve the relevant objectives in the One Plan.

(b) The most appropriate to achieve the objectives of the plan change

- 4.7 PC2 sought to correct an issue with OVERSEER version updates (an issue we now understand to be more complex than previously thought) and also deal with unintentionally restrictive policy direction.
- 4.8 The intention of the plan change was to ensure that the plan would remain useable following future updates to OVERSEER as well as ensuring that applications that could not meet the controlled activity status could be assessed fairly. Reducing uncertainty has also been a theme throughout the hearing.
- 4.9 The provisions in **Appendix 1** allow for the appropriate assessment of projected leaching levels against the CNLMs or reference file equivalents. The provisions ensure that the same version of OVERSEER is used to make the on-farm projections as to derive the limits against which they are being assessed (i.e. CNLMs or equivalents).

⁶ Acknowledging that the NRAT has natural capital aspects as explained by Prof Horne. But my understanding of the conversation during hot-tubbing was that it is a different natural capital approach to that in the One Plan and that it is coarser and also provides less nitrogen allocation to elite soils and provides more nitrogen allocation to poorer quality soils.

- 4.10 The circularity of the policy direction has been resolved, by removing the hard requirement to comply with Table 14-2, with additional policy direction to provide more direction regarding assessment of discretionary consents.
- 4.11 While retaining the use of OVERSEER as the principal leaching model, it allows for other potential models to complement and support it. The NRAT controlled activity pathway would allow a pathway to consent based only on inputs, with no peer review of the methodology and no attempt to estimate the volume of nitrogen entering the waterways in those target catchments.
- 4.12 In the other alternative controlled activity pathway, the specified reductions pathway requires a reduction based on averages over the catchment. It ignores the LUC class of the land, which is the philosophical underpinning of nitrogen regulation in the One Plan – that of maximising economic productivity within environmental limits.
- 4.13 In my opinion, the proposed provisions of **Appendix 1** therefore provide the appropriate balance of certainty, both in terms of appropriate consideration of consenting for IFLU and for delivering on the water quality targets for degraded catchments.

(c) Most appropriate to achieve the purpose of the RMA

- 4.14 As alluded to above, by providing the most certainty in terms of water quality outcomes, the Day V3 Provisions are the most effective at safeguarding the life-supporting capacity of water, sustaining the potential of healthy freshwater for future generations and avoiding, remedying or mitigating adverse effects upon it. They also provide for the social, cultural and economic well-being of the community, both in providing opportunity for IFLUs to continue and through improving water quality.

(d) Efficiency and effectiveness

- 4.15 For many of the same reasons as discussed above, I believe that the Day V3 Provisions provide the appropriate balance between resolving uncertainty for farmers around their prospects for obtaining consent and resolving the uncertainty around delivery on the objectives in the plan intended to reduce contaminant loads in degraded catchments. I would therefore consider it to be the most effective of the different options.

4.16 An efficient plan is one that delivers the appropriate result with the least amount of regulatory burden. The proposed provisions allow for a controlled activity pathway ensuring that all applications are held to the same standard, regardless of the status of OVERSEER updates.

4.17 Farms that cannot meet the CNLMs or their reference file equivalents have a number of different ways in which they can choose to present an application for a discretionary activity to keep farming. Within the scope provided in this plan change, I believe that the proposed provisions provide the appropriate outcomes with the least amount of regulatory burden possible.

(e) Environmental, economic, social and cultural benefits

4.18 The proposed provisions provide the best certainty for the health of the waterways in the target catchments, compared to any of the alternative options. In this arena, cultural benefits are very much aligned to environmental benefits, as attested to by Mr Tūroa for Ngāti Turanga.

4.19 Beyond the environmental and cultural benefits of the proposed provisions, they also provide appropriately for social and economic activities that rely on the ability to discharge nitrogen in the target catchments, and also the social and cultural benefits derived from improved water quality in future.

4.20 The proposed provisions also ensure equitable treatment in balancing the limited capacity of the regions waterways to assimilate pollution and the myriad of benefits that can be obtained from those waterways, in terms of both access to healthy fresh water and in its use by different and competing IFLUs as a waste sink. It is important that the allocation of rights to pollute are distributed equitably, according to a philosophy that is rational, understood and recognised by all resource users in the catchment.

(f) Environmental, economic, social and cultural costs and whether they can be quantified

4.21 In terms of costs, I reiterate my position from the s 32AA assessment of my primary evidence:

The expected cost, compared to the Council Preferred Provisions, is the extra expense of a discretionary activity consent over a controlled activity one, and

the [economic and] social impact of needing to reconcile land use management with the adverse environmental effects of those land uses.

4.22 It also appears, on the evidence of Mr Clough, that there is little economic difference between:

- a. the use of Table 14-2 and the specified reduction pathway as parallel CA pathways, defaulting to discretionary activity status; and
- b. the use of Table 14-2 as the only CA pathway defaulting to discretionary status.

4.23 Additional to that are the opportunity costs of activities that could take place in or on restored waterways, but cannot take place due to the degraded water quality.

4.24 Beyond the economic costs and benefits are also the social, cultural and environmental benefits of moving towards enforcing environmental limits.

(g) Opportunities for economic growth and employment

4.25 Again, I repeat my position from the s 32AA in my primary evidence, and that of Ms Foster. Growth, economic activity and employment are likely to be largely neutral (and/or unpredictable) since investment is likely to be redirected into other industries where farming activities are curtailed as a result of these provisions. In addition, new economic opportunities may arise as contaminant loads decrease in target catchments.

4.26 I also note that the rationale underpinning the One Plan's natural capital approach is to allow the greatest productivity and economic activity for the amount of nitrogen discharged. By maintaining the One Plan's natural capital approach, the provisions provide for the highest level of *sustainable* economic development.

(h) Risk

4.27 The Day V3 Provisions effectively manage a number of risks that the alternative provisions do less well. These risks are:

- a. That consented activities will not reduce nitrogen loads sufficiently to provide for improving health of waterways in target catchments;

- b. That consents for high leaching rates will be issued with long durations, frustrating future efforts to improve water quality;
- c. That the Council will not have a sufficient understanding of actual nitrogen loads to develop their understanding of nitrogen dynamics and be able to take further action in future;
- d. That the plan will again prove unworkable, by either setting artificially stringent nitrogen leaching rates (and result in farmers unable to obtain consent) or artificially low ones (and allow farmers to be consented with an inappropriate activity status);
- e. That economic activity will be restricted by inappropriately limiting activity on the most productive land.

(i) Giving effect to Council's s 30 functions

- 4.28 I reiterate my position from my primary evidence. I believe that in order to appropriately exercise its functions, Council must ensure that it appropriately regulates IFLU in a way that delivers on Objective 14-1 and the direction set in the RPS. I believe that “getting everyone in the tent” is not a satisfactory goal for the plan change and is simply an acknowledgement that Council has failed to perform its s 30 function adequately to date (at least in respect of Chapter 14 of its One Plan).
- 4.29 With the future of the NPS-FM in doubt, this plan change must, within the scope it has available, deliver a coherent, workable plan that delivers on the objectives it has set for the region.

(j) Will the provisions give effect to the NPS-FM and NZCPS

- 4.30 Consistent with the analysis in my primary evidence, the updated set of provisions also show adherence to the precautionary principle, in that they do not include the use of untested and unverified pathways that have unknown rates of nitrogen leaching.
- 4.31 I continue to believe that the Council preferred versions inappropriately allow a pathway to consent that is considerably easier than the need to meet a Table 14-2 (whether or not versions are aligned). To my view, the introduction of the NRAT pathway therefore elevates the third priority of the NPS-FM over the first

and the specified reductions pathway abandons the natural capital approach that underpins the plan.

M Scott

28 March 2024

Appendix 1

Recommended amendments

February 2024 and produced by Mr Carlyon 7 February 2024 (Appellant V2 Provisions). Where these are shown in this version of the plan provisions (Day V3 Provisions) they are still supported, and form part of the Day V3 Provisions. Aspects of the Appellant V2 Provisions that are no longer supported are not shown in the Day V3 Provisions. The nature of and reasons for these differences are addressed in the body of this evidence.

Track-changes with yellow highlight: New amendments proposed as part of the Day V3 Provisions.

Note M Scott 28 March 2024: Position on definitions is shown in Appendix 1 Decisions version + amendments.

5 Water

5.1 Scope and Background

5.1.1 Scope

This chapter addresses the management of fresh water in the Region. It covers:

- **Water Management Zones* and Sub-zones* and Values** - the establishment of *Water Management Zones** and *Sub-zones** and associated water management Values for each *Sub-zone**, for the purpose of managing water quality, water quantity and activities in the beds of rivers and lakes.
- **Surface water quality** - the establishment of *water quality targets** for rivers and lakes, in order to give effect to the Values, together with a policy regime of maintaining water quality in those *Water Management Sub-zones** that meet their *water quality targets**, and improving water quality over time in those *Water Management Sub-zones** that do not.
- **Groundwater quality** - the maintenance of existing groundwater quality and its improvement where it is degraded.
- **Discharges and land use activities affecting water quality** - the management of discharges into surface water, discharges onto or into land, and diffuse run-off and other land use activities affecting surface water and groundwater quality.
- **Surface water quantity and allocation** - the establishment of minimum flows and allocation regimes for rivers, and the management of water takes and other activities affecting surface water quantity.
- **Groundwater quantity and allocation, and bores*** - the establishment of *Groundwater Management Zones**, identification of the respective allocable volumes and the active management of groundwater takes.
- **Beds of rivers and lakes** - the management of activities that disturb the beds of rivers and lakes, the management of existing and new structures in the beds of rivers and lakes, and the establishment of sustainable gravel extraction limits for rivers.
- **Land adjacent to the beds of rivers and lakes** - the management of some activities in relation to flood control or drainage purposes.

The effects of hill country erosion on water quality are addressed in Chapter 4. The ecological impacts of takes, diversions, discharges and drainage on *rare habitats**, *threatened habitats** and *at-risk habitats** are addressed in Chapter 6.

5.1.2 Overview

Water is critical for life to exist. People living in the Region enjoy a temperate climate, a large number of rivers, streams and lakes and an extensive groundwater system. The Region does not experience the severity of droughts that impact on some other parts of New Zealand and generally there is enough water to meet

everyone's needs. People have grown up with an expectation of access to clean, safe water. But ready access means that water has not always been valued highly. The health of the surface water resource has steadily declined in most catchments as a result.



Despite this decline, there has been a revolution around water in the past few decades. In response to public concerns, significant improvements have been made to the quality of discharges from towns and industrial *sites**. For example, untreated sewage is no longer discharged directly into water bodies, and rivers no longer receive blood discharged from freezing works. Many former discharges to water, particularly discharges of dairy shed effluent, are now discharged to land. New large water takes, such as those associated with hydroelectric development, are carefully managed to ensure that the downstream needs of people and ecosystems are catered for. Although there have been substantial improvements in the quality of point source discharges to water, improvement is still possible and is necessary.

There has been a substantial intensification within the agricultural sector in recent years. This has contributed to a vibrant and booming regional economy but has also increased pressure on the Region's water resources. There has been a significant increase in irrigation demand and the amount of nutrients leaching to surface water and groundwater. Although the impacts of agricultural intensification are less obvious than those caused by the major point source discharges and abstractions mentioned above, they have increased progressively over time.

As the Region has grown, we have significantly altered the physical nature of many of its water bodies and their beds with structures, drainage and flood protection works, particularly in the Manawatu Plains. These changes have led to a poor and declining state of physical health in the Region's water bodies and their beds.

The impact of discharges and run-off on water quality and the increasing demand for water abstraction are two of the four most critical issues addressed in this Plan.

5.1.3

Water Quantity

The demand on surface water and groundwater resources is one of the most critical issues addressed in this Plan.

Water from the two main fresh water sources within the Region - surface water (rivers and lakes) and groundwater - is abstracted for a variety of uses, including drinking water supply, stock water supply, irrigation, electricity generation and industrial use.

The single largest user of water in the Region is the energy sector. Hydroelectric power generation takes are concentrated around Mount Ruapehu and on the Mangahao River. The amount of water used for power generation has not changed significantly in the past decade, although there is potential for more hydroelectricity generation in the future.

In contrast, with the exception of consented water supply abstraction from surface water, other uses have steadily increased over the past few decades in response to stock numbers increasing and the establishment of industrial plants. In recent years there has been a dramatic increase in water demand. From 1997 to 2009, consented groundwater takes almost doubled and consented surface water takes more than doubled (Table 5.1).

Table 5.1 Change in Consented Water Abstraction Volumes from 1997 to 2009 (excluding hydroelectric power generation)

		1997 to 2009 Percentage Change in Consented Water Takes		
Source	Sector	1997 (m ³ /d)	2009 (m ³ /d)	Increase (%)
Groundwater	All Sectors	287,000	537,179	+85%



		1997 to 2009 Percentage Change in Consented Water Takes		
Source	Sector	1997 (m ³ /d)	2009 (m ³ /d)	Increase (%)
Surface water	Agriculture	70,668	385,579	+446%
	Industry	38,835	97,782	+152%
	Water supply	162,024	133,259	-18%
	All Sectors	271,527	616,620	+127%

The greater the amount of water taken from a water body, the greater the potential impact on instream life, recreational activities (including fishing, swimming and boating), cultural/spiritual values and the ability of the water body and its bed to assimilate waste*. As important as the volume of water abstracted is the timing of abstraction. Rivers in the Region experience natural low flows during summer, which coincides with the period of greatest demand. The taking of water during higher flows generally has little impact, but even small takes during summer low flow conditions can have adverse effects. Measures which avoid those effects during the more critical summer low flow conditions should be encouraged. Maintaining natural flow variability is important for the habitat requirements of fish species, natural character and water quality. The ever-increasing demand on the Region's surface water resource means that it must be used efficiently, so that the amount of water allocated for abstraction is available to as many users as possible.

Groundwater monitoring indicates that groundwater levels are stable and research indicates that there is sufficient water for all users at a regional scale. A recent increase in large groundwater takes along the west coast has raised the potential for saltwater intrusion. This occurs when enough water is removed from an aquifer to allow seawater to migrate inland. Groundwater contaminated with saltwater is no longer suitable for irrigation or as stock water. Saltwater-contaminated groundwater will clear with time, but the timescale is measured in centuries.

The high density of *bores** in some areas has caused localised problems. These include:

- (a) impacts on other groundwater users. Allowing too many new users to access the groundwater resource will impact on the amount that is available to existing users and can affect the ability of existing *bores** to draw water.
- (b) impacts on groundwater-fed streams, lakes and wetlands. Many of the streams, lakes and wetlands along the west coast of the Region (eg., Lakes Papaitonga and Horowhenua) are dependent upon groundwater. Groundwater is particularly important during summer, as it may be the only source of inflow.

*Bores** are the main means of accessing groundwater resources. They provide the principal way of studying the subsurface environment by enabling sampling of subsurface geology, allowing direct measurement of groundwater levels and quality and allowing testing of aquifer yields. This Plan adopts the NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock in its entirety for the management of *bores** (design, drilling, completion, development, testing, *maintenance**, cleaning/disinfection, record keeping and decommissioning).

5.1.4

Water Quality

There is significant variation in water quality across the Region. Rivers (including streams) emerging from the mountains or areas that have retained their original vegetation cover tend to have very good water quality. The one exception to this is the Whangaehu River, which flows from the crater lake on Mt Ruapehu. It is naturally acidic and contains high levels of sulphur and heavy metals.

As rivers flow towards the sea, they pick up sediment and nutrients from the surrounding land. As would be expected, water quality in the lower reaches of rivers and streams is poorer than in the headwaters.

In the past, the biggest threats to water quality were municipal (eg., sewage), industrial (eg., meat works and fellmongers) and agricultural (eg., dairy shed effluent) discharges. Although considerable improvements have been made to discharges to water, further improvement is still possible and necessary.

The intensification in agriculture during the past 10 to 15 years has been especially marked in the dairy sector. Raising stock numbers increases the quantity of dairy shed effluent requiring disposal, the quantity of stock urine produced (a concentrated source of nutrients), and the opportunities for stock to access water bodies and their beds. The agricultural sector is recognising the impact it is having on the nation's water bodies and has started to act. The dairy sector was the first to respond, with the Dairying and Clean Streams Accord (an agreement between Fonterra, the Ministry for the Environment, Regional Councils and others on an approach to enhance water quality). Such voluntary approaches are one way of lowering nutrient and faecal levels in the Region's water bodies and the Regional Council supports them, although further improvements are needed. Further improvements will require a mix of regulatory and non-regulatory approaches that may alter over time.

Groundwater quality within the Region varies according to both depth and location. Generally, deeper groundwater is of higher quality. For example, shallow groundwater within the Horowhenua District near Levin has high concentrations of nitrates, which are believed to be the result of septic tank discharges and *fertiliser** use on market gardens. There have been no significant changes in groundwater quality over the length of the Regional Council's monitoring record (more than 15 years). There is no evidence that groundwater quality is deteriorating.

The overall state of fresh water quality in the Region is as follows:

- (a) The middle reaches of many rivers are unsafe to swim in because of bacterial contamination, or are unpleasant to swim in because of slime (periphyton) growth (Figure 5.1). Elevated nitrate and phosphate levels promote slime growth. The slime also impacts on fish and instream invertebrate communities.
- (b) The lower reaches of many rivers have high concentrations of bacteria, nitrates, phosphates and sediments, and these levels are increasing.
- (c) There is minimal contamination of surface water from heavy metals, hydrocarbons and other toxic substances.
- (d) The quality of groundwater in the Region is generally suitable for stock needs and irrigation, with a low sodium hazard and a low-medium salinity hazard.
- (e) Nitrate levels are high in shallow groundwater in parts of the Region, but the levels have not changed during the period of monitoring.
- (f) Groundwater is free of herbicides and pesticides.

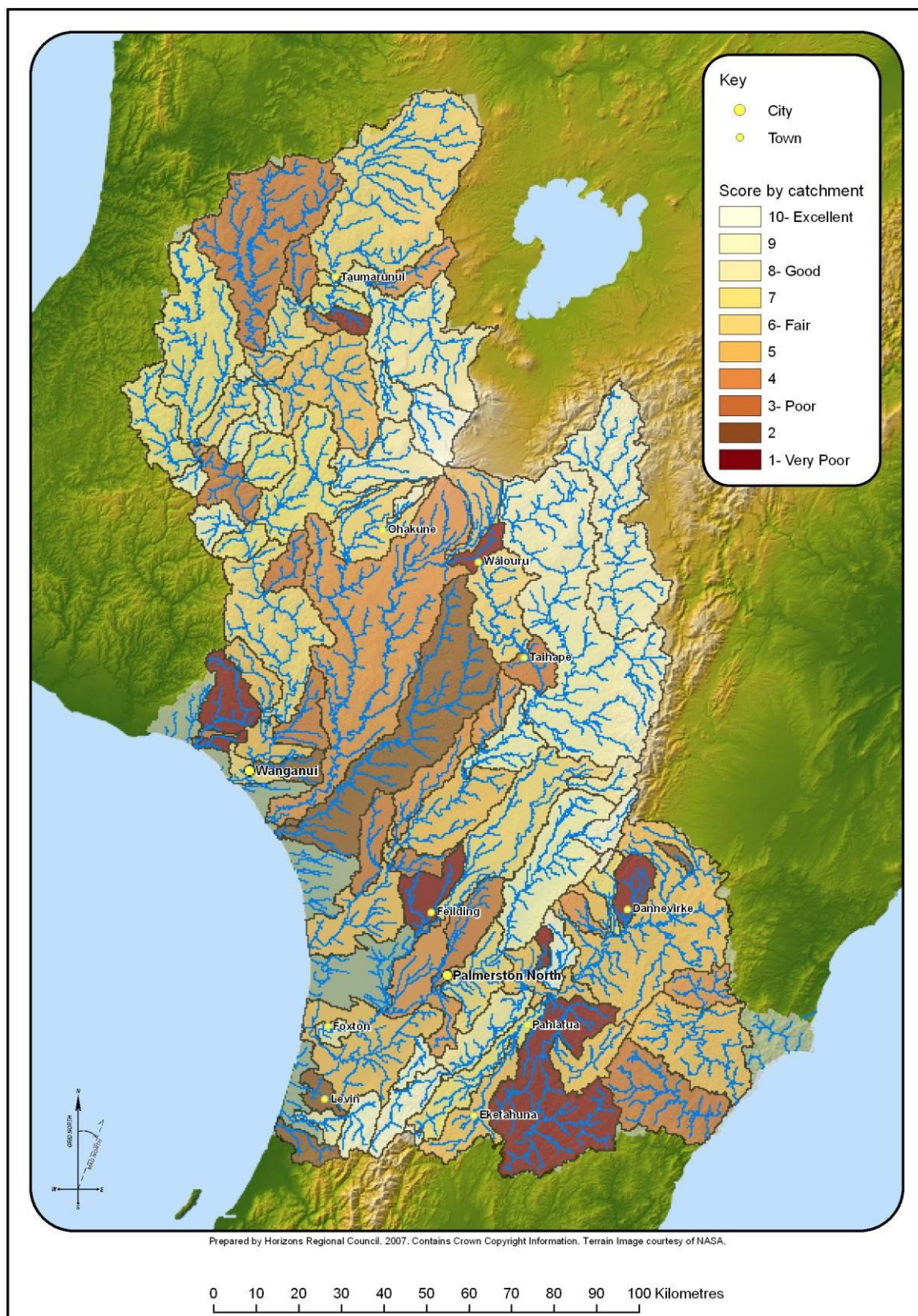


Figure 5.1 Suitability of water quality for contact recreation within the Region

5.1.5 Beds of Rivers and Lakes

People have always been attracted to rivers and lakes to live, work and play. Despite the economic, cultural, social and environmental importance of rivers and lakes, many of the rivers and lakes in the Region have been highly modified over the years. Works to control flooding and erosion, dams, and diversions for hydroelectricity generation can be large scale and have significant effects on the physical nature of the Region's rivers and lakes. Smaller-scale changes like river crossings and small dams can have negative cumulative impacts. Urban expansion often alters rivers. Utilisation of the Region's gravel resource provides an economic benefit and there may be flood protection benefits from having it removed from rivers. However, gravel extraction, when not managed well, can lead to increased flooding and erosion risk.

This modification has contributed to the economic growth and wellbeing of the Region, but it has also negatively altered the character and ecology of most rivers and lakes in the Region, impacting on cultural values attributed to them and leading to the loss or fragmentation of indigenous plant and animal populations.

5.2 Significant Resource Management Issues

Issue 5-1: Water quality

The quality of many rivers and lakes in the Region has declined to the point that ecological values are compromised and contact recreation such as swimming is considered unsafe. The principal causes of this degradation are:

- (a) nutrient enrichment caused by run-off and leaching from agricultural land, discharges of treated wastewater, and septic tanks
- (b) high turbidity and sediment loads caused by land erosion, river channel erosion, run-off from agricultural land and discharges of stormwater
- (c) pathogens from agricultural run-off, urban run-off, discharges of sewage, direct stock access to water bodies and their beds and discharges of agricultural and industrial waste*.

Shallow groundwater in areas of intensive land use in the Horowhenua and Tararua Districts has elevated nitrate levels in excess of the New Zealand drinking water standard. However, the quality of groundwater in the Region is generally suitable for stock needs and irrigation, and there has been no evidence of deteriorating groundwater quality during the past 15 years.

Issue 5-2: Water quantity and allocation

The use of both surface water and groundwater has increased dramatically during the last decade. The demand for surface water in the Ohau, Oroua and parts of the upper Manawatu catchments already exceeds supply, and other catchments are experiencing marked increases. This increased demand has the potential to adversely affect both instream values and the natural character of rivers, wetlands and lakes, if not managed. The amount of groundwater is generally capable of meeting demand within the Region, although there is a need to actively manage effects between bores* at a local level, the effects of groundwater takes on surface water, and to be vigilant about the risk of saltwater intrusion along the west coast.

Issue 5-3: Beds of rivers and lakes

The demand for flood and erosion control to protect many types of land use has led to significant modification of the Region's rivers and lakes and their margins. Structures required to be located within the beds of rivers and lakes, including



bridges, culverts, water intake and discharge pipes and hydroelectricity structures, also affect the natural character of rivers and lakes and their margins. These types of uses and developments, in conjunction with gravel extraction, have modified, and continue to modify the physical characteristics and ecology of many of the Region's rivers and lakes.

5.3

Objectives

Objective 5-1: *Water*[^] management Values

Surface *water bodies*[^] and their *beds*[^] are managed in a manner which safe guards their life supporting capacity and recognises and provides for the Values in Schedule B¹.

Whāinga 5-1: He ūara whakahaere wai

Ka āta whakahaeretia ngā mata wai me ngā papa o ērā kia whakamaru ai i te āheinga toko ora o ērā, ā, ka mōhiotia, ka pukumaharatia hoki ngā Uara kei roto i Pukapuka Āpiti B.

Objective 5-2: *Water*[^] quality

- (a) Surface *water*[^] quality is managed to ensure that:
 - (i) *water*[^] quality is maintained in those *rivers*[^] and *lakes*[^] where the existing *water*[^] quality is at a level sufficient to support the Values in Schedule B
 - (ii) *water*[^] quality is enhanced in those *rivers*[^] and *lakes*[^] where the existing *water*[^] quality is not at a level sufficient to support the Values in Schedule B
 - (iii) accelerated eutrophication and sedimentation of *lakes*[^] in the Region is prevented or minimised
 - (iv) the special values of *rivers*[^] protected by *water conservation orders*[^] are maintained.
- (b) Groundwater quality is managed to ensure that existing groundwater quality is maintained or where it is degraded/over allocated as a result of human activity, groundwater quality is enhanced.

Whāinga 5-2: Te kounga o te wai

- (a) *Ka whakahaeretia te kounga o te mata wai kia hua ai:*
 - (i) *ka tiakina te kounga o te wai kei roto i ngā awa me ngā roto he kaha tonu te kounga o te wai hei hāpai i ngā Uara kei roto i Pukapuka Āpiti B*
 - (ii) *ka whakapaingia te kounga o te wai kei roto i ngā awa me ngā roto kāore i te kaha te kounga o te wai hei hāpai i ngā Uara kei roto i Pukapuka Āpiti B*
 - (iii) *ka āraia, ka whakaitingia rānei te tere parahanga ā-matū whakamōmona, te parakiwai hoki o ngā roto o te Rohe, ā,*
 - (iv) *ka tiakina ngā uara motuhake o ngā awa e whakamarumarutia e ngā whakahau whakauka wai, arā, ko ngā water conservation orders.*
- (b) *Ka whakahaeretia te kounga o te waipapa kia hua ai ka tiakina tonutia te kounga o te waipapa kei reira kē; ka whakarākaitia rānei te kounga o te*

¹ Schedule B is not a component of Part I - the Regional Policy Statement. It is a component of Part II - the Regional Plan.

waiopapa, ka whakaparungia rānei, ka tuhenetia te tuaritanga rānei nā te mahi a te tangata.

Objective 5-3: **Water[^] quantity and allocation**

Water[^] quantity is managed to enable people, industry and agriculture to take and use water[^] to meet their reasonable needs while ensuring that:

- (a) For surface water[^]:
 - (i) minimum flows and allocation regimes are set for the purpose of maintaining or enhancing (where degraded) the existing life-supporting capacity of rivers[^] and their beds[^] and providing for the other Values in Schedule B as appropriate
 - (ii) takes and flow regimes for existing hydroelectricity are provided for before setting minimum flow and allocation regimes for other uses
 - (iii) in times of water[^] shortage, takes are restricted to those that are essential to the health or safety of people and communities, or drinking water[^] for animals, and other takes are ceased
 - (iv) the amount of water[^] taken from lakes[^] does not compromise their existing life-supporting capacity
 - (v) the requirements of water conservation orders[^] are upheld
 - (vi) the instream geomorphological components of natural character are provided for.

For the avoidance of doubt this list is not hierarchical.
- (b) For groundwater:
 - (i) takes do not cause a significant adverse effect[^] on the long-term groundwater yield
 - (ii) groundwater takes that are hydrologically connected to rivers[^], are managed within the minimum flow and allocation regimes established for rivers[^]
 - (iii) groundwater takes that are hydrologically connected to lakes[^] or wetlands[^] are managed to protect the life-supporting capacity of the lakes[^] or wetlands[^]
 - (iv) the significant adverse effects[^] of a groundwater take on other groundwater and surface water[^] takes are avoided
 - (v) saltwater intrusion into coastal aquifers, induced by groundwater takes, is avoided.
- (c) In all cases, water[^] is used efficiently.

Whāinga 5-3: **Te nui o te wai me tōna tūaritanga**

Ka whakahaeretia te wai kia āhei ai te tangata, ngā ahumahi, me te hunga ahuwhenua te tango me te whakamahi i te wai hei whakatutuki i ō rātou hiahia, kia hua ai hoki:

- (a) *Mō te mata wai:*
 - (i) *ka whakatauria ngā rerenga iti me ngā tikanga whakahaere tuaritanga hei tiaki rānei, hei whakarākai ake rānei i te oranga tonutanga o ngā awa me ngā papa o ērā (mehemea kua paru) hei taunaki hoki i ngā Uara e tika ana kei roto i Pukapuka Āpiti B*
 - (ii) *ko ngā tikanga tango, tikanga rere hoki mō te hikowai kua pukumaharatia i mua i te whakatau i ngā rerenga iti me ngā tikanga whakahaere tuaritanga mō whakamahinga kē atu anō*



- (iii) *i ngā wā kōpaka wai, ka whakatikina te tango wai hāunga rā hei tiaki i te hauora, te haumaru rānei o te tangata, ngā hapori, hei wai inu mō ētahi kararehe rānei, ā, ka katia rawatia te tango mō take kē atu*
 - (iv) *e kore e waimeha te oranga tonutanga mā te tango wai i ngā roto*
 - (v) *ka hāpaitia ngā whakaritenga o ngā tauākī whakauka wai me ngā pānui ā-takiwā mō te whakauka wai, arā, ko ngā Water Conservation Orders*
 - (vi) *ko ngā wāhanga tinipapa roto-wai o te āhua māori ka pukumaharatia.*
- Hei papare i te rangirua, ehara tēnei i te rārangi aroākapa.*
- (b) *Mō te waiopapa:*
- (i) *e kore te tango wai e pā kaha atu ki te huanga roa o te waiopapa*
 - (ii) *ka whakahaeretia te tango waiopapa e pā ana ki ngā awa i runga i ngā tikanga whakahaere rerenga wai iti, tūaritanga hoki kua whakaritea*
 - (iii) *ka whakahaeretia te tango waiopapa e pā ana ki ngā roto, ngā papa waiwai rānei hei whakamarumaru i te oranga tonutanga o ngā roto, ngā papa waiwai rānei*
 - (iv) *ka parea ngā pānga kino o te tango waiopapa ki te mahi tango i waiopapa kē, tango mata wai rānei*
 - (v) *ka parea te urunga o te waitai, nā te tango waiopapa, ki roto i ngā kahupapa takutai moana, ā.*
- (c) *I ngā wā katoa ka whakamahia te wai i runga i te tikanga whakamau.*

Objective 5-4: Beds[^] of rivers[^] and lakes[^]

The beds[^] of rivers[^] and lakes[^] will be managed in a manner which:

- (a) *sustains their life supporting capacity*
- (b) *provides for the instream morphological components of natural character*
- (c) *recognises and provides for the Schedule B Values*
- (d) *provides for infrastructure[^] and flood mitigation purposes.*

The land[^] adjacent to the bed[^] of reaches with a Schedule B Value of Flood Control and Drainage will be managed in a manner which provides for flood mitigation purposes.

Whāinga 5-4: Ngā papa awa me ngā papa roto

Ka whakahaeretia ngā papa awa me ngā papa roto ka:

- (a) *whakauka tonu i te oranga tonutanga o ērā*
- (b) *pukumahara mō ngā wāhanga tinipapa roto-wai ka whai āhuatanga māori*
- (c) *āhukahuka, ka pukumahara hoki mō ngā Ūaratanga o Pukapuka Āpiti B*
- (d) *pukumahara mō te kaupapa kei raro me ngā koronga whakamāmā waipuke.*

Ko te whenua ka āpiti atu ki te papa o ngā toronga me te Ūaratanga Whakahaere Waipuke, Rerenga hoki o te Pukapuka Āpiti B ka whakahaeretia kia pukumahara ai mō ngā koronga whakamāmā waipuke.



5.4 Policies

5.4.1 Water Management Framework

Policy 5-1: *Water Management Zones** and Values

For the purposes of managing *water*[^] quality, *water*[^] quantity, and activities in the *beds*[^] of *river*[^] and *lake*[^], the catchments in the Region have been divided into *Water Management Zones** and *Water Management Sub-zones** in Schedule A.² Groundwater has been divided into *Groundwater Management Zones** in Schedule D.³

The *river*[^] and *lake*[^] and their *beds*[^] must be managed in a manner which safeguards their life supporting capacity and recognises and provides for the Schedule B Values when decisions are made on avoiding, remedying or mitigating the adverse *effects*[^] of activities or in relation to any other function under the Resource Management Act 1991 exercised by the Regional Council or Territorial Authorities. The individual Values and their associated management objectives are set out in the Schedule B Surface *Water*[^] Management Values Key and repeated in Table 5.2.

Table 5.2 Surface *Water*[^] Management Values and Management Objectives

Value Group	Individual Values		Management Objective
Ecosystem Values	NS	Natural State	The <i>river</i> [^] and its <i>bed</i> [^] are maintained in their natural state
	LSC	Life-supporting Capacity	The <i>water body</i> [^] and its <i>bed</i> [^] 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 <i>water body</i> [^] and its <i>bed</i> [^] sustain healthy inanga spawning and egg development
	WM	<i>Whitebait</i> [*] Migration	The <i>water body</i> [^] and its <i>bed</i> [^] are maintained or enhanced to provide safe passage of inwardly migrating juvenile native fish known collectively as <i>whitebait</i> [*]
Recreational and Cultural Values	CR	Contact Recreation	The <i>water body</i> [^] and its <i>bed</i> [^] are suitable for contact recreation
	AM	Amenity	The amenity values of the <i>water body</i> [^] and its <i>bed</i> [^] (and its margins where in public ownership) are maintained or enhanced
	MAU	<i>Mauri</i> [*]	The <i>mauri</i> [*] of the <i>water body</i> [^] and its <i>bed</i> [^] is maintained or enhanced
	SOS-C	Sites of Significance - Cultural	Sites of significance for cultural values are maintained

² Schedule A is not a component of Part I - the Regional Policy Statement. It is a component of Part II - the Regional Plan.

³ Schedule D is not a component of Part I - the Regional Policy Statement. It is a component of Part II - the Regional Plan.



Value Group	Individual Values		Management Objective
	TF	Trout Fishery	The <i>water body</i> [^] and its <i>bed</i> [^] sustain healthy rainbow or brown trout fisheries
	TS	Trout Spawning	The <i>water body</i> [^] and its <i>bed</i> [^] meet the requirements of rainbow and brown trout spawning and larval and fry development
	AE	Aesthetics	The aesthetic values of the <i>water body</i> [^] and its <i>bed</i> [^] are maintained or enhanced
Water[^] Use	WS	<i>Water</i> [^] Supply	The <i>water</i> [^] is suitable, after treatment, as a drinking <i>water</i> [^] source for human consumption
	IA	Industrial Abstraction	The <i>water</i> [^] is suitable as a <i>water</i> [^] source for industrial abstraction or use, including for hydroelectricity generation ⁺
	I	Irrigation	The <i>water</i> [^] is suitable as a <i>water</i> [^] source for irrigation
	SW	Stockwater	The <i>water</i> [^] is suitable as a supply of drinking <i>water</i> [^] for livestock
	DFS	<i>Domestic Food Supply</i> [*]	The <i>water</i> [^] is suitable for domestic food production
Social/ Economic Values	CAP	Capacity to Assimilate Pollution	The capacity of a <i>water body</i> [^] and its <i>bed</i> [^] to assimilate pollution is not exceeded
	FC/D	Flood Control and Drainage	The integrity of existing flood and <i>river</i> [^] bank erosion protection <i>structures</i> [^] and existing drainage <i>structures</i> [^] is not compromised and the risks associated with flooding and erosion are managed sustainably
	EI	Existing <i>Infrastructure</i> [^]	The integrity of existing <i>infrastructure</i> [^] is not compromised

⁺ *Water Management Zones*^{*} and *Water Management Sub-zones*^{*} throughout the Region (and particularly those with good head and flow available) may have potential for hydroelectricity generation. Further *site*^{*}-specific assessment will be needed to establish the locations where such potential may be realised while having regard to the Schedule B Values of the relevant *water bodies*[^] and their *beds*[^].

5.4.2 Water Quality

5.4.2.1 Surface Water Quality

Policy 5-2: *Water quality targets*^{*}

In Schedule E⁴, *water quality targets*^{*} relating to the Schedule B Values (repeated in Table 5.2) are identified for each *Water Management Sub-Zone*^{*}. Other than where they are incorporated into *permitted activity*[^] rules as *conditions*[^] to be met, the *water quality targets*^{*} in Schedule E must be used to inform the management of surface *water*[^] quality in the manner set out in Policies 5-3, 5-4 and 5-5.

⁴ Schedule E is not a component of Part I - the Regional Policy Statement. It is a component of Part II - the Regional Plan.

Policy 5-3: Ongoing compliance where *water quality targets are met**

- (a) Where the existing *water*[^] quality meets the relevant Schedule E *water quality targets** within a *Water Management Sub-zone**, *water*[^] quality must be managed in a manner which ensures that the *water quality targets** continue to be met beyond the zone of reasonable mixing (where mixing is applicable).
- (b) For the avoidance of doubt:
 - (i) in circumstances where the existing *water*[^] quality of a *Water Management Sub-zone** meets all of the *water quality targets** for the *Sub-zone** (a) applies to every *water quality target** for the *Sub-zone**
 - (ii) in circumstances where the existing *water*[^] quality of a *Water Management Sub-zone** meets some of the *water quality targets** for the *Sub-zone** (a) applies only to those *water quality targets** that are met
 - (iii) for the purpose of (a) reasonable mixing is only applicable to a *discharge*[^] from an identifiable location.

Policy 5-4: Enhancement where *water quality targets are not met**

- (a) Where the existing *water*[^] quality does not meet the relevant Schedule E *water quality targets** within a *Water Management Sub-zone**, *water*[^] quality within that sub-zone must be managed in a manner that enhances existing *water*[^] quality in order to meet:
 - (i) the *water quality target** for the *Water Management Zone** in Schedule E, and/or
 - (ii) the relevant Schedule B Values and management objectives that the *water quality target** is designed to safeguard.
- (b) For the avoidance of doubt:
 - (i) in circumstances where the existing *water*[^] quality of a *Water Management Sub-zone** does not meet all of the *water quality targets** for the *Sub-zone**, (a) applies to every *water quality target** for the *Sub-zone*
 - (ii) in circumstances where the existing *water*[^] quality of a *Water Management Sub-zone** does not meet some of the *water quality targets** for the *Sub-zone**, (a) applies only to those *water quality targets** not met.

Policy 5-5: Management of *water*[^] quality in areas where existing *water*[^] quality is unknown

- (a) Where there is insufficient data to enable a comparison of the existing *water*[^] quality with the relevant Schedule E *water quality targets**, *water*[^] quality within the *Water Management Sub-Zone*[^] must be managed in a manner which, beyond the zone of reasonable mixing (where reasonable mixing is applicable):
 - (i) maintains or enhances the existing *water*[^] quality
 - (ii) has regard to the likely effect of the activity on the relevant Schedule B Values that the *water quality target** is designed to safeguard
 - (iii) has regard to relevant information about the existing *water*[^] quality in upstream or downstream *Water Management Sub- zones**, where such information exists.



- (b) For the avoidance of doubt:
 - (i) in circumstances where there is insufficient data to enable a comparison of the existing *water*[^] quality with all of the *water quality targets*^{*} for a *Water Management Sub-zone*^{*} (a) applies to every *water quality target*^{*} for the *Sub-zone*^{*}
 - (ii) in circumstances where there is insufficient data to enable a comparison of the existing *water*[^] quality with some of the *water quality targets*^{*} for a *Water Management Sub-zone*^{*} (a) applies only to those *water quality targets*^{*} with insufficient data
 - (iii) for the purpose of (a) reasonable mixing is only applicable to a *discharge*[^] from an identifiable location.

5.4.2.2

Groundwater Quality

Policy 5-6: Maintenance of groundwater quality

- (a) *Discharges*[^] and *land*[^] use activities must be managed in a manner which maintains the existing groundwater quality, or where groundwater quality is degraded/over allocated as a result of human activity, it is enhanced.
- (b) An exception may be made under (a) where a *discharge*[^] onto or into *land*[^] better meets the purpose of the RMA than a *discharge*[^] to *water*[^], provided that the best practicable *option*[^] is adopted for the treatment and *discharge*[^] system.
- (c) Groundwater takes in the vicinity of the coast must be managed in a manner which avoids saltwater intrusion.

5.4.2.3

Discharges[^] and *Land*[^] use Activities Affecting *Water*[^] Quality

Policy 5-7: *Land*[^] use activities affecting groundwater and surface *water*[^] quality

The management of *land*[^] use activities affecting groundwater and surface *water*[^] must give effect to the strategy for surface *water*[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6, by managing diffuse *discharges*[^] of contaminants in the following manner:

- (a) identifying in the regional plan targeted *Water Management Sub-zones*^{*}. Targeted *Water Management Sub-zones*^{*} are those subzones where, collectively, *land*[^] use activities are significant contributors to elevated contaminant levels in groundwater or surface *water*[^]
- (b) identifying in the regional plan intensive farming *land*[^] use activities. Intensive farming *land*[^] use activities are rural *land*[^] use activities that (either individually or collectively) make a significant contribution to elevated contaminant levels in the targeted *Water Management Sub-zones*^{*} identified in (a) above
- (c) actively managing the intensive farming *land*[^] use activities identified in (b) including through regulation in the regional plan, in the manner specified in Policy 5-8

- (d) the Regional Council must continue to monitor ground and surface *water*[^] quality in *Water Management Sub-zones*^{*} not identified in (a) and rural *land*[^] uses not identified in (b). Where monitoring shows the thresholds in (a) and (b) are met then the regional plan must be amended so that those further *Water Management Sub-zones*^{*} and rural *land*[^] uses are included in the management regime set out in (c).

Policy 5-8: Regulation of intensive farming *land*[^] use activities affecting groundwater and surface *water*[^] quality

(a) Nutrients

- (i) Nitrogen leaching maximums must be established in the regional plan which:
- (A) take into account all the non-point sources of nitrogen in the catchment
 - (B) will achieve the strategies for surface *water*[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6
 - (C) recognise the productive capability of *land*[^] in the *Water Management Sub-zone*^{*}
 - (D) are achievable on most farms using good management practices
 - (E) provide for appropriate timeframes for achievement where large changes to management practices or high levels of investment are required to achieve the nitrogen leaching maximums.
- (ii) Existing intensive farming *land*[^] use activities must generally be regulated in targeted *Water Management Sub-zones*^{*} to achieve the nitrogen leaching maximums specified in (i).
- (iia) For existing intensive land uses that do not achieve the nitrogen leaching maximums established under (i), the regional plan must provide that any consents granted:
- (A) take into account all the non-point sources of nitrogen in the catchment
 - (B) will achieve the strategies for surface *water*[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for ground water quality in Policy 5-6
 - (C) recognise the productive capability of *land*[^] in the *Water Management Sub-zone*^{*}
 - (D) are of limited duration.
- (iii) New intensive farming *land*[^] use activities must be regulated throughout the Region to achieve the nitrogen leaching maximums specified in (i).

(b) Faecal contamination

- (i) Those persons carrying out existing intensive farming *land*[^] use activities in the targeted *Water Management Sub-zones*^{*} listed in Table 14.1 or new conversions to intensive farming *land*[^] use activities anywhere in the Region must be required, amongst other things, to:
- (A) prevent cattle access to some surface *water bodies*[^] and their *beds*[^]
 - (B) mitigate faecal contamination of surface *water*[^] from other entry points (eg., run-off from races, feed pads and paddocks)
 - (C) establish programmes for implementing any required changes.



(c) **Sediment**

- (i) In those *Water Management Sub-zones** where agricultural *land^* use activities are the predominant cause of elevated sediment levels in surface *water^*, the Regional Council will promote the preparation of voluntary management plans under the Council's Sustainable Land Use Initiative or Whanganui Catchment Strategy for the purpose of reducing the risk of *accelerated erosion**, as described in Chapter 4.

(d) **Good management practices***

- (i) All intensive farming *land^* use activities must be regulated to, as a minimum, implement good management practices* to manage nutrient leaching and run-off, faecal contamination, and sediment losses

Policy 5-9:**Point source *discharges*[^] to *water*[^]**

The management of point source *discharges*[^] into surface *water*[^] must have regard to the strategies for surface *water*[^] quality management set out in Policies 5-3, 5-4 and 5-5, while having regard to:

- (a) the degree to which the activity will adversely affect the Schedule B Values for the relevant *Water Management Sub-zone*^{*}
- (b) whether the *discharge*[^], in combination with other *discharges*[^], including non-point source *discharges*[^] will cause the Schedule E *water quality targets*^{*} to be breached
- (c) the extent to which the activity is consistent with *contaminant*[^] treatment and *discharge*[^] best management practices
- (d) the need to allow reasonable time to achieve any required improvements to the quality of the *discharge*[^]
- (e) whether the *discharge*[^] is of a temporary nature or is associated with necessary *maintenance*[^] or *upgrade*^{*} work and the *discharge*[^] cannot practicably be avoided
- (f) whether adverse *effects*[^] resulting from the *discharge*[^] can be offset by way of a financial contribution set in accordance with Chapter 19
- (g) whether it is appropriate to adopt the *best practicable option*[^].

Policy 5-10: Point source *discharges*[^] to *land*[^]

Discharges[^] of *contaminants*[^] onto or into *land*[^] must be managed in a manner which:

- (a) does not result in pathogens or other toxic substances accumulating in soil or pasture to levels that would render the soil unsafe for agricultural, domestic or recreational use
- (b) has regard to the strategies for surface *water*[^] quality management set out in Policies 5-3, 5-4 and 5-5, and the strategy for groundwater management set out in Policy 5-6
- (c) maximises the reuse of nutrients and *water*[^] contained in the *discharge*[^] to the extent reasonably practicable
- (d) results in any *discharge*[^] of liquid to *land*[^] generally not exceeding the available *water*[^] storage capacity of the soil (deferred irrigation)
- (e) ensures that adverse *effects*[^] on *rare habitats*^{*}, *threatened habitats*^{*} and *at-risk habitats*^{*} are avoided, remedied or mitigated.

Policy 5-11: Human sewage *discharges*[^]

Notwithstanding other policies in this chapter:

- (a) before entering a surface *water body*[^] all new *discharges*[^] of treated human sewage must:
 - (i) be applied onto or into *land*[^], or
 - (ii) flow overland, or
 - (iii) pass through an alternative system that mitigates the adverse *effects*[^] on the *mauri*^{*} of the receiving *water body*[^], and
- (b) all existing direct *discharges*[^] of treated human sewage into a surface *water body*[^] must change to a treatment system described under (a) by



the year 2020 or on renewal of an existing consent, whichever is the earlier date.

5.4.3 Water Quantity and Allocation

5.4.3.1 Policies applying to both Surface Water and Groundwater

Policy 5-12: Reasonable and justifiable need for *water*[^]

Subject to Policy 5-18, the amount of *water*[^] taken by resource users must be reasonable and justifiable for the intended use. In addition, the following specific measures for ensuring reasonable and justifiable use of *water*[^] must be taken into account when considering consent applications to take *water*[^] for irrigation, *public water supply*^{*}, animal drinking *water*[^], dairy shed washdown or industrial use, and during reviews of consent *conditions*[^] for these activities.

- (a) For irrigation, *resource consent*[^] applications must be required to meet a reasonable use test in relation to the maximum daily rate of abstraction, the irrigation return period and the seasonal or annual volume of the proposed take. When making decisions on the reasonableness of the rate and volume of take sought, the Regional Council must:
 - (i) consider *land*[^] use, crop *water*[^] use requirements, on-site physical factors such as soil *water*[^]-holding capacity, and climatic factors such as rainfall variability and potential evapo-transpiration
 - (ii) assess applications either on the basis of an irrigation application efficiency of 80% (even if the actual system being used has a lower application efficiency), or on the basis of a higher efficiency where an application is for an irrigation system with a higher efficiency
 - (iii) link actual irrigation use to soil moisture measurements or daily soil moisture budgets in consent *conditions*[^].
- (b) For domestic use, animal drinking *water*[^] and dairy shed washdown *water*[^], reasonable needs must be calculated as:
 - (i) up to 300 litres per person per day for domestic needs
 - (ii) up to 70 litres per animal per day for drinking *water*[^]
 - (iii) up to 70 litres per animal per day for dairy shed washdown.
- (c) For industrial uses, *water*[^] allocation must be calculated where possible in accordance with best management practices for *water*[^] efficiency for that particular industry.
- (d) For *public water supplies*^{*}, the following must generally be considered to be reasonable:
 - (i) an allocation of 300 litres per person per day for domestic needs, plus
 - (ii) an allocation for commercial use equal to 20% of the total allocation for domestic needs, plus
 - (iii) an allocation for industrial use calculated, where possible, in accordance with best management practices for *water*[^] efficiency for that particular industry, plus
 - (iv) an allocation necessary for hospitals, other facilities providing medical treatment, marae, schools or other education facilities, New Zealand Defence Force facilities or correction facilities, plus
 - (v) an allocation necessary for public amenity and recreational facilities such as gardens, parks, sports fields and swimming pools, plus

- (vi) an allocation necessary to cater for the reasonable needs of animals or agricultural uses that are supplied by the *public water supply** system, plus
 - (vii) an allocation necessary to cater for growth, where urban growth of the municipality is provided for in an operative *district plan*^ for the area and is reasonably forecast, plus
 - (viii) an allocation for leakage equal to 15% of the total of (i) to (vii) above.
- (e) When making decisions on consent applications where the existing allocation for a *public water supply** exceeds the allocation determined in accordance with (d)(i) to (d)(vi) above:
- (i) consideration must be given to imposing a timeframe within which it is reasonably practicable for the existing allocation to be reduced to the determined amount, or
 - (ii) if (i) is not imposed, an alternative allocation must be determined based on the particular social and economic circumstances of the community serviced by the *public water supply** and the actual and potential *effects*^ of the abstraction on the relevant Schedule B Values for the reach of *river*^ or its *bed*^ affected by the take.

Policy 5-13: Efficient use of *water*^

Water^ must be used efficiently, including by the following measures:

- (a) requiring *water*^ audits and *water*^ budgets to check for leakages and *water*^ -use efficiency as appropriate
- (b) requiring the use of, or progressive *upgrade** to, *infrastructure*^ for *water*^ distribution that minimises the loss of *water*^ and restricts the use of *water*^ to the amounts determined in accordance with Policy 5-12
- (c) enabling the transfer of *water permits*^
- (d) promoting *water*^ storage
- (e) raising awareness about *water*^ efficiency issues and techniques
- (f) requiring monitoring of *water*^ takes, including by installing *water*^ metering and telemetry.

5.4.3.2

Policies for Surface Water

Policy 5-14: Overall approach for surface *water*^ allocation

- (a) The requirements of *water conservation orders*^ must be given effect under this Plan.
- (b) Takes and flow regimes lawfully established for hydroelectricity generation as at 31 May 2007 must be provided for prior to implementing (c) and (d) below.
- (c) Core allocations of surface *water*^ from *rivers*^ must be determined in accordance with Policies 5-15 and 5-16. Takes that comply with the relevant core allocation, when assessed in combination with all other takes, must be allowed.
- (d) Supplementary allocations of surface *water*^ from *rivers*^ must be determined in accordance with Policy 5-17.



- (e) Takes from *river*[^] must be apportioned, restricted or suspended when *river*[^] flows are at or below their minimum flows in accordance with the provisions of Policy 5-18.
- (f) Takes of *water*[^] from *lakes*[^] must comply with Policy 5-19.

Policy 5-15: Core allocations and minimum flows

- (a) The taking of *water*[^] from *river*[^] must be managed in accordance with the minimum flows and cumulative core allocations set out in Schedule C.
- (b) The minimum flows and cumulative core allocations set out in Schedule C must be set after providing for any takes and flow regimes lawfully established for hydroelectricity generation as at 31 May 2007.

Policy 5-16: Approach to setting minimum flows and core allocations

- (a) Where good hydrological information, such as a specific *water*[^] resource study or a long-term flow record, is available it must be used to set minimum flows and core allocations in Schedule C.
- (b) Where information described in (a) above is not available, the minimum flows and core allocations set out in Schedule C must generally be a minimum flow equal to the estimated or calculated one-day mean annual low flow, and a core allocation equal to a percentage of the minimum as specified in Schedule C.
- (c) The setting of a revised minimum flow or core allocation that is an alternative to that set in Schedule C must occur through a plan change process.

Policy 5-17: Supplementary *water*[^] allocation

In addition to the core allocations set out in Policy 5-15, a supplementary allocation from *river*[^] may be provided:

- (a) in circumstances where *water*[^] is only taken when the *river*[^] flow is greater than the median flow, and the total amount of *water*[^] taken by way of a supplementary allocation does not exceed 10% of the actual flow in the *river*[^] at the time of abstraction, and
- (b) in circumstances where it can be shown that the supplementary allocation will not:
 - (i) increase the frequency or duration of minimum flows
 - (ii) lead to a significant departure from the natural flow regime, including the magnitude of the median flow and the frequency of flushing flows
 - (iii) cause any adverse *effects*[^] that are more than minor on the Schedule B Values of the *water body*[^] or its *bed*[^]
 - (iv) limit the ability of anyone to take *water*[^] under a core allocation
 - (v) derogate from *water*[^] allocated to hydroelectricity generation.

Policy 5-18: Apportioning, restricting and suspending takes in times of minimum flow

When a *river*[^] is at or below its minimum flow, takes from it must be managed in the following manner:

- (a) **Permitted takes** - Takes that are permitted by this Plan (surface *water*[^] and groundwater takes) or are for fire-fighting purposes must be allowed to continue regardless of *river*[^] flow.

- (b) **Existing hydroelectricity generation takes** - must be allowed to continue subject only to any minimum flow restrictions specified in their consent *conditions*[^].
- (c) **Supplementary takes** - must cease at a flow specified in their consent *conditions*[^] and that cessation flow must be higher than the Schedule C minimum flow such that the requirements of Policy 5-17(b)(i) are met.
- (d) **Essential takes** - The following core *water*[^] allocation takes are deemed essential and must be managed in the manner described:
 - (i) takes greater than permitted by this Plan (and therefore subject to *resource consent*[^]) that are required for reasonable domestic needs, reasonable needs of animals for drinking *water*[^], and reasonable dairy shed washdown *water*[^] must be allowed to continue regardless of *river*[^] flow, but must not exceed:
 - (A) up to 250 litres per person per day for domestic needs
 - (B) up to 70 litres per animal per day for drinking *water*[^]
 - (C) up to 70 litres per animal per day for dairy shed washdown
 - (ii) takes required to meet the reasonable needs of hospitals, other facilities providing medical treatment, marae, schools or other education facilities, New Zealand Defence Force facilities or correction facilities must be allowed to continue regardless of *river*[^] flow, but must be required to minimise the amount of *water*[^] taken to the extent reasonably practicable
 - (iii) takes which were lawfully established at the time of Plan notification (31 May 2007) required for industries which, if their take were to cease, would significantly compromise a community's ability to provide for its social, economic or cultural wellbeing or for its health or safety (including the hygienic production and processing of perishable food), must be allowed to continue regardless of *river*[^] flow, but must be required to minimise the amount of *water*[^] taken to the extent reasonably practicable
 - (iv) *public water supply*^{*} takes must be restricted to a total public *water*[^] consumption calculated as follows:
 - (A) an allocation of 250 litres per person per day for domestic needs, plus
 - (B) an allocation for commercial use equal to 20% of the total allocation for domestic needs, plus
 - (C) an allocation which meets the reasonable needs of those facilities and industries listed under (d)(ii) and (d)(iii) where such facilities and industries are connected to the *public water supply*^{*} system, plus
 - (D) any allocation necessary to cater for the reasonable needs of animals that are supplied by the *public water supply*^{*} system, plus
 - (E) an allocation for leakage equal to 15% of the total of (A) to (D) above.
- (e) **Non-essential takes** - Other core *water*[^] allocation takes, including irrigation takes but excluding the essential takes described under (d), must be managed in the following manner:
 - (i) *water*[^] takes must be required to cease when the *river*[^] is at or below its minimum flow, as set out in Policy 5-15
 - (ii) *water*[^] takes must be allowed to recommence once the *river*[^] flow has risen above its minimum flow.



- (f) **Meaning of “core water[^] allocation take”** - For the purposes of this policy, a core water[^] allocation take means a take that has been granted consent in accordance with a core allocation made under Policy 5-15, or in accordance with a previous core allocation regime.

Policy 5-19: Surface water[^] allocation - lakes[^]

Decisions on *resource consent[^]* applications to take water[^] from a lake[^] must ensure that there are no significant adverse *effects[^]* on the Schedule B Values of the lake[^] and have regard to the policies for indigenous *biological diversity[^]* in Chapter 13.

5.4.3.3

Policies for Bores* and Groundwater

Policy 5-20: Overall approach for bore* management and groundwater allocation

- (a) New bores* must be constructed and managed in accordance with Policy 16-4.
- (b) *Groundwater Management Zones** are mapped in Schedule D.
- (c) Total groundwater allocations must comply with the annual allocable volumes for *Groundwater Management Zones** set out in Policy 5-21.
- (d) The measured or modelled *effects[^]* of a proposed groundwater take on other groundwater users, surface water bodies[^] and saltwater intrusion must be managed in accordance with Policies 16-1, 16-5, 16-6 and 16-7.

Policy 5-21: Groundwater Management Zones

The total amount of consented groundwater allocated from each *Groundwater Management Zone** mapped in Schedule D must not exceed the annual allocable volume for the GWMZ* specified in Schedule D.

5.4.4

Beds of Rivers and Lakes

Policy 5-22: General management of the beds[^] of rivers[^] and lakes[^]

Activities in, on, under or over the beds[^] of rivers[^] and lakes[^] must generally be managed in a manner which:

- (a) recognises and provides for the Schedule B Values for the *Water Management Sub-zone(s)** in which the activity takes place, in the manner described in Policies 5-23, 5-24 and 5-25
- (b) avoids any significant reduction in the ability of a river[^] and its bed[^] to convey flood flows, or significant impedance to the passage of floating debris
- (c) avoids, remedies or mitigates any significant adverse *effects[^]* on the stability and function of the beds[^] of rivers[^] and lakes[^], and existing structures[^] including flood and erosion control structures[^]
- (d) avoids, remedies or mitigates any significant reduction in the habitat diversity, including the morphological diversity, of the river[^] or lake[^] or its bed[^]
- (e) manages *effects[^]* on natural character and public access in accordance with the relevant policies in Chapter 6. Natural character can include the

natural style and dynamic processes of the *river*[^], such as *bed*[^] style and width and the quality and quantity of *bed*[^] habitat

- (f) provides for the safe passage of fish both upstream and downstream
- (g) ensures that the existing nature and extent of navigation of the *river*[^] or *lake*[^] are not obstructed
- (h) ensures that access required for the *operation*^{*}, *maintenance*^{*}, and *upgrade*^{*} of *infrastructure*[^] and other physical resources of regional or national importance is not obstructed
- (i) provides for continued public access in accordance with Policy 6-10.

Policy 5-23: Activities in *sites*^{*} with a Value of Natural State, Sites of Significance - Cultural, or Sites of Significance - Aquatic

In *sites*^{*} with a Schedule B Value of Natural State, Sites of Significance - Cultural or Sites of Significance - Aquatic, activities in, on, under or over the *beds*[^] of *rivers*[^] and *lakes*[^] must be managed in a manner which:

- (a) avoids adverse *effects*[^] on these Values in the first instance, or
- (b) for *infrastructure*[^] and other resources of regional and national importance, or activities that result in an environmental benefit, remedies or mitigates those *effects*[^] where it is not practicable to avoid them, and
- (c) maintains the habitat and spawning requirements of the species identified.

Policy 5-24: Activities in *rivers*[^] or *lakes*[^] and their *beds*[^] with a Value of Flood Control and Drainage

In reaches of *rivers*[^] or *lakes*[^] and their *beds*[^] with a Schedule B Value of Flood Control and Drainage, activities in, on, under or over the *beds*[^] of *rivers*[^] and *lakes*[^] and on *land*[^] adjacent to the *bed*[^] where the Value is located must be managed in a manner which:

- (a) enables the degree of flood hazard and erosion protection existing at the time of Plan notification (31 May 2007) to be maintained or enhanced
- (b) addresses adverse effects by:
 - (i) in the first instance, avoiding, remedying or mitigating adverse *effects*[^] on the instream morphological components of natural character and other Schedule B Values
 - (ii) providing consent applicants with the option of making an offset
 - (iii) allowing compensation by way of a financial contribution in accordance with the policies in Chapter 19.

Policy 5-25: Activities in *rivers*[^] or *lakes*[^] and their *beds*[^] with other Schedule B Values

In *sites*^{*} with Schedule B Values other than Natural State, Sites of Significance - Cultural, Sites of Significance - Aquatic, or Flood Control and Drainage, activities in, on, under or over the *beds*[^] of *rivers*[^] and *lakes*[^] must be managed in a manner which:

- (a) in the first instance avoids, remedies or mitigates significant adverse *effects*[^] on the instream morphological components of natural character and Schedule B Values
- (b) provides consent applicants with the option of making an offset



- (c) allows compensation by way of a financial contribution in accordance with the policies in Chapter 19.

Policy 5-26: Essential and beneficial activities

Activities in, on, under or over the *beds*^ of *rivers*^ and *lakes*^ that are essential or result in an environmental benefit must generally be allowed, including:

- (a) the use, *maintenance** and *upgrading** of existing *infrastructure*^ and other existing physical resources of regional or national importance
- (b) works designed to maintain or improve the stability and functionality of existing *structures*^
- (c) the removal of derelict, unlawful or non-functional *structures*^
- (d) the restoration or enhancement of natural habitats.

Policy 5-27: Gravel extraction

Subject to Policies 5-22 to 5-26 and the need to ensure that gravel extraction volumes are sustainable, the benefit the gravel resource provides for use and development and the flood protection benefit of having it managed will be recognised.

5.5

Methods

The taking of surface water and groundwater, discharging contaminants to surface water and to land, and the undertaking of activities that disturb the beds of rivers or lakes, are largely regulated activities. Part II: Regional Plan contains rules relating to the activities described in this chapter. The key non-regulatory methods the Regional Council will pursue are outlined below.

Method 5-1 Large Water Abstractors	
Description	The aim of this method is to provide assistance to large water abstractors to identify options for improving the water abstraction, distribution and use components of their activities. It is expected this method will reduce the abstraction pressure on the groundwater and surface water resources, while providing abstractors with financial benefits and their business/customers with greater certainty of supply. The emphasis will be on working with large abstractors to identify and implement opportunities for increasing water use efficiency, reducing distribution network leakages, agreeing priority of use within distribution networks, and consideration of alternative water supply and storage options.
Who	The Regional Council, Territorial Authorities, industry (including hydroelectricity generators) and large irrigators will work together to develop, fund and implement this programme.
Links to Policy	This method implements Policies 5-12 and 5-13.
Target	All major abstractors in the Region have been contacted and assistance provided where requested by 2016.

Method 5-2 Sewage Treatment Plant Upgrades	
Description	The aim of this method is to assist Territorial Authorities to seek central Government funding for sewage treatment plant upgrades, given that the plants make a significant contribution to contaminants to water bodies during low flows. The Regional Council will work with Territorial Authorities to analyse their treatment and disposal options and to develop a package to present to Government with the aim of securing capital works funding to reduce the environmental impact of these discharges.
Who	Regional Council, Territorial Authorities, Ministry of Health, local health agencies (eg., MidCentral Health) and iwi authorities.
Links to Policy	This method implements Policies 5-2, 5-6, 5-9 and 5-11.
Targets	Central Government funding applications completed for upgrade of sewage treatment plants as required.

Method 5-3 On-site Wastewater System Forum	
Description	The aim of this method is to facilitate implementation of the Regional Council's Manual for On-Site Wastewater Systems Design and Management. The Regional Council will establish a forum to aid understanding and implementation of the manual and will undertake regular reviews of new types of on-site treatment and disposal systems.
Who	The forum will comprise, as a minimum, representatives from the Regional Council, Territorial Authorities, consulting engineers and system installers.
Links to Policy	This method implements Policies 5-2, 5-6 and 5-10.
Target	Two meetings per year.

Method 5-4 Human Sewage Discharges to Water	
Description	The Regional Council will provide assistance to Territorial Authorities to upgrade existing sewage treatment systems that directly discharge treated human sewage to the Region's water bodies. The Regional Council to work with Territorial Authorities to reduce water volume, explore land application options and assist with funding opportunities.
Who	Regional Council, Territorial Authorities and iwi authorities.
Links to Policy	This method implements Policies 5-2 and 5-11.
Target	To stop direct human sewage discharges to water by 2020.



Method 5-5 Stormwater System Discharge Upgrades	
Description	The Regional Council will provide assistance to Territorial Authorities wanting to upgrade the treatment of their existing urban stormwater system discharges, where these are into water bodies. The Regional Council to work with Territorial Authorities to reduce water volume, explore land disposal options and assist with funding opportunities.
Who	Regional Council, Territorial Authorities and iwi authorities.
Links to Policy	This method implements Policies 5-2, 5-6, 5-9 and 5-10.
Target	To reduce the number, and improve the quality, of urban stormwater discharges by 2016.

Method 5-6 Lake Horowhenua and Other Coastal Lakes	
Description	The Regional Council and other agencies will work with all agencies to protect and enhance Lake Horowhenua and other coastal lakes. Landowners and other agencies will be provided with advice and project management assistance to carry out enhancement and protection measures including fencing, planting, sediment control, wastewater/stormwater management and fertiliser application management. The Regional Council will seek funding from third parties to assist with this method. The effectiveness of the protection and enhancement works in achieving improved water quality within Lake Horowhenua and other Coastal Lakes will be monitored. The method will include publicity to increase public awareness about the importance of the lakes. The method will include utilising industry codes of practice as a means of enhancing and protecting water quality eg., the Code of Practice for Commercial Vegetable Growing in the Horizons Region.
Who	Regional Council, Territorial Authorities, Fish & Game New Zealand, Department of Conservation, iwi, Horticulture NZ, landowners and other agencies.
Links to Policy	This method implements Policy 5-7.
Target	The Lake is actively managed, including protection and enhancement measures, within 5 years of this Plan becoming operative.

Method 5-7 Lake Quality Research, Monitoring and Reporting	
Description	The aim of this method is to develop an integrated research, monitoring and reporting programme. The focus will be to define the current state of the quality of the Region's lakes, particularly the Region's coastal lakes. The method will seek to assess the state and quality of the lakes to better understand the influences on water

Method 5-7 Lake Quality Research, Monitoring and Reporting	
	quality in those lakes. The outcomes will link into work to refine existing policies, objectives and methods in terms of the need to add rural land uses and <i>Water Management Sub-zones*</i> in managing nutrient management and effects on water quality. The outcomes will also guide implementation planning and allow implementation effectiveness is to be assessed.
Who	Regional Council, Department of Conservation, Fish & Game New Zealand, Horticulture New Zealand, DairyLink, research institutes, universities, non-Government agencies, community groups and iwi authorities as required.
Links to Policy	This method implements Policies 5-3, 5-4, 5-7 and 5-8.
Targets	A research, monitoring and reporting programme that defines the current state of water quality of the Region's lakes (particularly coastal lakes) and measure changes in water quality.

Method 5-8 Trout and Native Fish Spawning Habitat	
Description	The Regional Council and other agencies will work with landowners to protect and enhance water bodies and their beds that serve as spawning <i>sites*</i> for brown and rainbow trout and native fish. Resources will be directed towards the most significant <i>sites*</i>. Landowners will be provided with advice and financial/project management assistance to carry out enhancement and protection measures including fencing, planting, providing fish passage and pest plant and pest animal control. The Regional Council will seek funding from third parties to assist with this method. The effectiveness of the protection and enhancement works will be monitored. The method will include publicity to increase public awareness about the importance of trout and native fish.
Who	Regional Council, Territorial Authorities, Fish & Game New Zealand, Department of Conservation, landowners and funding agencies including He Tini Awa Trust.
Links to Policy	This method implements Policies 5-2, 5-22 and 5-25.
Target	30 of the top trout spawning habitat <i>sites*</i> and native fish habitat spawning <i>sites*</i> are actively managed, including protection and enhancement measures, within 10 years of this Plan becoming operative.



Method 5-9 Water Quality Improvement	
Description	The Regional Council and other agencies will work with landowners to protect and enhance the water quality of the Region's water bodies. Landowners in those <i>Water Management Sub-zones*</i> where the nutrient management (non-point source discharge) control rules are to be introduced will receive the highest priority for assistance. This method represents an expansion of the Regional Council's existing water quality improvement programme, which focuses almost entirely on dairy farmers as part of the Dairying and Clean Streams Regional Action Plan for Manawatu-Wanganui Region. Landowners will be provided with advice and financial/project management assistance to carry out enhancement and protection measures including fencing and planting of riparian margins. The Regional Council will seek funding from third parties to assist with this method. The effectiveness of the protection and enhancement works will be monitored.
Who	Regional Council, Dairy NZ, Fonterra, Horticulture NZ, Territorial Authorities and funding agencies including the He Tini Awa Trust and Nga Whenua Rahui.
Links to Policy	This method implements Policies 5-2, 5-4 and 5-8.
Targets	• The targets of the Dairying and Clean Streams Regional Action Plan for Manawatu-Wanganui Region are achieved by the due dates. • Advice and assistance is offered to all landowners affected by the nutrient management rules. • All landowner requests for advice and assistance regarding water quality improvement are responded to promptly.

Method 5-10 Education in Schools - Water	
Description	The aim of this method is to raise awareness amongst the youth of the Region of the significance of the water (quantity and quality) resource, the threats to it, and what they can do to protect/restore it. This will be achieved through various environmental education programmes/initiatives - for example, Green RIG, Enviroschools and Trees for Survival.
Who	Regional Council, various national and local environmental education providers and the Youth Environment Forum.
Links to Policy	This method implements Policy 5-2.
Targets	The Regional Council develops and delivers a water-related environmental education programme.

Method 5-11 Water (Fluvial Resources, Quality and Quantity) Research, Monitoring and Reporting	
Description	The aim of this method is to develop an integrated research, monitoring and reporting programme. The focus will be to define the current state of the natural character of the Region's rivers by analysing their habitat and morphological diversity through assessments of historical and current data. This may include: planform/ channel morphology classification; fairway width; sinuosity; barforms; percentage of pool, riffle, run, habitat; gravel resources, level of entrenchment, and location and extent of riparian and wetland areas. The method will also seek to measure changes in natural character, including habitat and morphological diversity. The outcomes will link into monitoring undertaken by the River Works Environmental Code of Practice and support delivery and refinement of existing policies, objectives and methods. The outcomes will be reported in the Council State of the Environment Report and also guide implementation planning and allow implementation effectiveness to be assessed.
Who	Regional Council, Department of Conservation, Fish & Game New Zealand, research institutes, universities, non-Government agencies, community groups and iwi authorities as required.
Links to Policy	This method implements Policies 5-2, 5-14, 5-16, 5-22, 5-23, 5-24, 5-25, 5-26 and 6-8.
Targets	A research, monitoring and reporting programme that defines the current state of the natural character of the Region's rivers and measure changes in natural character, including habitat and morphological diversity.

Method 5-12 Innovative Land Use Research	
Description	Support initiatives by local communities, sector groups or tangata whenua which develop options for sustainable land use in the Region. Support for work in Water Management Sub-zones* where nitrogen leaching is an issue, as identified in Table 14.1, will be a priority in order to find viable options (including nitrogen loss mitigation options) for intensive farming land users that will have difficulty in reducing nitrogen loss to the extent necessary to achieve the nitrogen leaching maximums specified in the One Plan rules. Horizons will provide assistance through providing data and information that will assist in the identification and evaluation of innovative nitrogen loss mitigations or land use options and participating in any evaluative work as appropriate.
Who	Local communities, including tangata whenua, rural and other sector groups, Territorial Authorities, and Regional Council (in consultation with tangata whenua).
Links to Policy	This method implements Policies 5-7 and 5-8.
Target	Advice and assistance is available for landowners and tangata whenua in the Region regarding land use management practices.



Method 5-13 Provision of Information	
Description	Horizons will collate and publish information regarding Overseer and the identification and evaluation of nutrient management models other than Overseer that may be more appropriate for calculation of on-farm nutrient losses.
Who	Regional Council, tangata whenua, rural sector groups, and nutrient management model providers.
Links to Policy	This method implements Policy 5-8.
Target	A list of nutrient management models appropriate for use in intensive farming land is maintained on Horizons' website.

Method 5-14	Reference file system
Description	The aim of this method is to set up, maintain, use, and make publicly available an OVERSEER reference file system. This will be achieved by: - The Regional Council compiling baseline reference files using OVERSEER version [insert as used for final updated Table 14.2] which represent typical farm systems across the region with nitrogen leaching that meets the <i>cumulative nitrogen leaching maximums</i> on each of LUC class 1-8 land. - The Regional Council holding the license for OVERSEER for these baseline reference files and making them (and the features that were used as inputs in OVERSEER) publicly available on its website or as part of the regional plan. - Each time a new version of OVERSEER is released, the Regional Council

	determining the nitrogen leaching loss numbers for each reference file and making these publicly available on its website. The figure determined for the reference file for each of LUC class 1-8 represents what the <i>cumulative nitrogen leaching maximum</i> would be for that LUC class under the new version of OVERSEER; they represent the reference file system equivalents of the <i>cumulative nitrogen leaching maximums</i> for that new version of OVERSEER. • The Regional Council using the reference file system, and the <i>cumulative nitrogen leaching maximum</i> equivalents determined using that system, to assess applications for intensive farming land uses where the nitrogen leaching losses in those applications have been estimated using a different, newer version of OVERSEER to that used to derive the <i>cumulative nitrogen leaching maximums</i>. • The Regional Council using the reference file system for compliance monitoring of resource consents for intensive farming land uses where any nitrogen leaching losses are being estimated using a different, newer version of OVERSEER than that used to determine any nitrogen leaching limits specified in the conditions of consent. • The Regional Council to consider whether a plan change is required to update Table 14.2 using the reference file system each time OVERSEER is updated.
Who	Regional Council, OVERSEER and farm systems technical experts.
Links to Policy	The method implements Policy 5-8
Targets	A process is built into the One Plan which will: • Manage the implications to the <i>cumulative nitrogen leaching maximums</i> of OVERSEER version changes. • Enable applicants to determine if they do or do not comply with the <i>cumulative nitrogen leaching maximums</i> in situations where nutrient leaching is estimated using a different version of OVERSEER than used to derive the



	<u>cumulative nitrogen leaching maximums.</u> • <u>Ensure that applications, conditions and enforcement are based on leaching estimates that are fair, transparent and current.</u>
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5.6 Anticipated Environmental Results

Anticipated Environmental Result	Link to Policy	Indicator	Data Source
During the life of this Plan, water quality and quantity maintain the Values set in this Plan. In <i>Water Management Sub-zones</i>⁎: • where <i>water quality targets</i>⁎ are met prior to this Plan becoming operative, they continue to be met • where <i>water quality targets</i>⁎ are not met prior to this Plan becoming operative, they are either met or improved from the current state where targeted for action or, where not targeted for action, they are no worse than prior to this Plan becoming operative.	Water Policies: 5-1, 5-2, 5-3, 5-4, 5-5, 5-8, 5-9, 5-10, 5-11, 5-12, 5-13, 5-14, 5-15, 5-17, 5-19, 5-22, 5-23, 5-24, 5-25 and 5-26 Land Policies: 4-1, 4-2 and 4-3 Living Heritage Policies: 6-1, 6-2, 6-3, 6-4 and 6-8	• Measured water quality compared to <i>water quality targets</i>⁎, especially measures for “muddy waterways”, “safe swimming”, “safe food gathering”, and “aquatic ecosystem health” in priority catchments • Incidents where surface water quality is confirmed as unfit for use • Measured flows of surface water compared to the allocation and minimum flow regime outlined in this Plan	• The Regional Council's State of Environment water quality and quantity monitoring programme • The Regional Council's incidents database • Ministry of Health raw water monitoring
By 2017, the natural, physical and cultural qualities of the beds of rivers are suitable for specified <i>Water</i>	Water Policies: 5-1, 5-22, 5-23, 5-24, 5-25 and	• Confirmed incidents of damage to the beds of rivers • Consents granted for activities	• The Regional Council's incidents database

Anticipated Environmental Result	Link to Policy	Indicator	Data Source
<i>Management Sub-zone*</i> Values.	5-26	in beds of rivers and lakes	The Regional Council's consents database
The amount of groundwater used does not exceed replenishment rates and its quality is the same as or better than that measured prior to this Plan becoming operative, other than where discharges to land are a permitted activity or are allowed by resource consent.	Water Policies: 5-6, 5-10, 5-12, 5-13, 5-20 and 5-21	- Groundwater levels Region-wide, but with a focus on Opiki and Himatangi areas - Groundwater quality Region-wide, but with a focus on nitrates in Horowhenua and Tararua districts and conductivity along the Foxton-Tangimoana coast - Confirmed incidents where groundwater sources become unavailable (ie., dry up) or water quality is unfit for use	- The Regional Council's State of Environment groundwater monitoring programme - The Regional Council's compliance monitoring programme - The Regional Council's incidents database - Ministry of Health raw water monitoring

5.7 Explanations and Principal Reasons

The Region has been divided into *Water Management Sub-zones** for the purpose of managing water quality and quantity. Water bodies and their beds within these *Water Management Sub-zones** have been assigned Values which represent the ecosystem, recreational, cultural and social and economic attributes of the water body and its bed (Objective 5-1, Policy 5-1). *Water quality targets** have been assigned to protect these Values (Policies 5-2 to 5-5).

Discharges to water and land

The water chapter deals with discharges to land and water holistically. This is because discharges to land have the potential to adversely affect groundwater and surface water quality if not managed well. Three types of discharges of concern have been identified: point source discharges to land (including *domestic wastewater**), point source discharges to water (including industrial discharges and treated sewage) and non-point source discharges to land (from agricultural land uses). All these types of discharges will be managed to meet the objectives and policies for water quality (Objective 5-1, 5-2, Policies 5-2 - 5-5), including discharges to land (Policy 5-10).

Agricultural land uses contribute to water bodies not meeting the Region's *water quality targets** for nutrients, faecal contamination and sediment levels. These need to be targeted for control in problem catchments and through the Regional Council's Sustainable Land Use Initiative (SLUI) and Whanganui Catchment Strategy and the regulation of intensive farming (Policy 5-8).

Point source discharges to water need to be managed to achieve *water quality targets** (Policy 5-9). This may mean that it is appropriate to consider alternatives to discharging to water. This may include considering alternative treatment options for all or part of the year, to achieve or move closer to *water quality targets** at critical times of the year. In all cases, point source discharges to water of untreated human sewage are culturally unacceptable, and direct discharges of



treated human sewage should be changed to involve land application before discharge (Policy 5-11).

Surface Water Quantity

Water will be used and allocated in a way which enables water to be used for the wellbeing of people and the community, while providing for other Values (Objective 5-3, Policy 5-14). Water allocation limits are set for each *Water Management Sub-zone** and water will be managed to maintain these limits (Policies 5-15 and 5-16). When water use needs to be restricted, life sustaining and essential water takes have first priority (Policy 5-18). Water harvesting and alternative sources of water to surface water are also encouraged and provided for (Policy 5-17). Efficiency of use is an important consideration, and will ensure that water is available to the maximum number of users and is not wasted (Policies 5-12 and 5-13).

Groundwater

Groundwater quality and quantity is connected to that of surface water and this is recognised in this chapter, while providing for its management separately. *Bores** will be managed to ensure that they are properly constructed, efficient and fully functioning and do not lead to contamination of groundwater, wastage of water or unnecessary effects on other *bores** or surface water bodies (Policy 5-20). *Groundwater Management Zones** have been established and sustainable allocations set; groundwater takes will be managed within these allocations (Policy 5-21). Groundwater quality within the Region is generally good and is not declining, but maintaining this good quality will be a consideration when managing discharges (Policy 5-10).

Beds of Rivers and Lakes

The physical nature of the Region's rivers and lakes and their beds is important to maintaining the Values assigned to them. Management of activities in the beds of rivers and lakes will be undertaken in order to maintain these Values, and other important physical attributes (Objective 5-4, Policies 5-22 and 5-26). Some Values are treated differently. Important aquatic biodiversity *sites**, cultural *sites** and natural state areas would be negatively and potentially permanently harmed by some activities and consequently are given a high level of protection (Policy 5-23). Flood control and drainage schemes have damaged water Values in some areas, but also provide valuable protection services to the community. Maintaining this level of service is important, while ensuring that other Values are not further compromised (Policy 5-24). While recognising the Values, acknowledgement is also needed that some activities, such as river restoration, are beneficial and should be allowed to occur (Policy 5-26).

Gravel extraction is an important activity in river beds, both for the benefit the gravel resource provides and the flood protection benefit of having it removed from the river. However, if not well managed, too much extraction or extraction in an inappropriate manner can damage river Values. Gravel extraction needs to be managed to ensure that extraction volumes are sustainable (Policy 5-27).



Key:

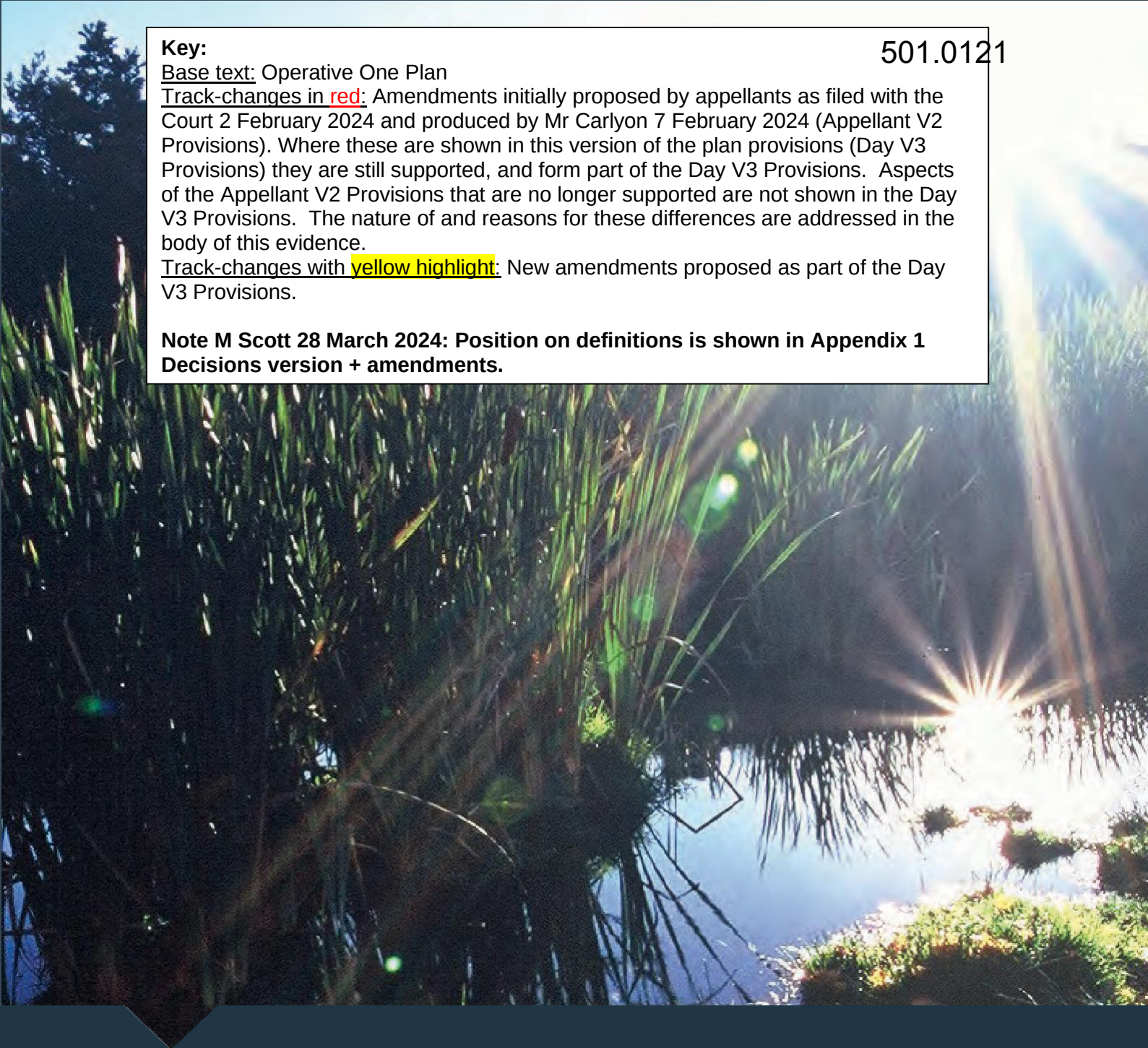
501.0121

Base text: Operative One Plan

Track-changes in red: Amendments initially proposed by appellants as filed with the Court 2 February 2024 and produced by Mr Carlyon 7 February 2024 (Appellant V2 Provisions). Where these are shown in this version of the plan provisions (Day V3 Provisions) they are still supported, and form part of the Day V3 Provisions. Aspects of the Appellant V2 Provisions that are no longer supported are not shown in the Day V3 Provisions. The nature of and reasons for these differences are addressed in the body of this evidence.

Track-changes with yellow highlight: New amendments proposed as part of the Day V3 Provisions.

Note M Scott 28 March 2024: Position on definitions is shown in Appendix 1 Decisions version + amendments.



Chapter 14:

14 Discharges to Land and Water

14.1 Objectives

Objective 14-1: Management of discharges^ to land^ and water^ and land^ uses affecting groundwater and surface water quality

The management of *discharges^* onto or into *land^* (including those that enter *water^*) or directly into *water^* and *land^* use activities affecting groundwater and surface *water^* quality in a manner that:

- (a) safeguards the life supporting capacity of water and recognises and provides for the Values and management objectives in Schedule B,
- (b) provides for the objectives and policies of Chapter 5 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.

14.2 Policies

*Policy 14-1: 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:

- (a) the objectives and Policies 5-1 to 5-5 and 5-9 of Chapter 5, 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 5, 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 2, 3, 6, 9 and 12 to the extent that they are relevant to the *discharge^*.

Policy 14-2: 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 5 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 5,
- (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 5,
 - (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 2, 3, 6, 9 and 12 to the extent that they are relevant to the *discharge[^]*.

Policy 14-3: 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 14-1, 14-2, 14-4 and 14-5.

Policy 14-4: 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[^]*, 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 14-X: Ensuring consistency between cumulative nitrogen leaching maximums* and farm nitrogen leaching estimates

In the event that the OVERSEER version used to derive the *cumulative nitrogen leaching maximums** in Table 14-2 is different to the version used to estimate on-farm nitrogen leaching, decision-makers must assess estimated on-farm nitrogen leaching against the equivalent maximums for any relevant *land use capability class** produced by the reference file system for that different version of OVERSEER.

Policy 14-5: Management of intensive farming land[^] uses

In order to give effect to Policy 5-7 and Policy 5-8, intensive farming *land*[^] use activities affecting groundwater and surface *water*[^] quality must be managed in the following manner:

- (a) The following land uses have been identified as intensive farming *land*[^] uses:
- (i) *Dairy farming**
 - (ii) *Commercial vegetable growing**
 - (iii) *Cropping**
 - (iv) *Intensive sheep and beef**
- (b) The intensive farming *land*[^] uses identified in (a) must be regulated where:
- (i) They are existing intensive farming *land*[^] uses (i.e. established prior to the date specified in Table 14.1 on which Rule 14-1 had legal effect¹), in the targeted *Water Management Sub-zones** identified in Table 14.1.
 - (ii) They are new (ie., established after the Plan has legal effect¹) intensive farming *land*[^] uses, in all *Water Management Subzones** in the Region (that is, established after the date the Plan had legal effect, which is 24 August 2010 for dairy farming* and 9 May 2013 for commercial vegetable growing*, cropping* and intensive sheep and beef*)².
- (c) Nitrogen leaching maximums have been established in Table 14.2.
- (d) Existing intensive farming *land*[^] uses regulated in accordance with (b)(i) must be managed to ensure that the projected long-term average leaching of nitrogen from those *land*[^] uses does not exceed:
- (i) the *cumulative nitrogen leaching maximum** values for each year contained in Table 14.2 where the OVERSEER version used to estimate nitrogen leaching is the same as the version used to produce the *cumulative nitrogen leaching maximums** in Table 14-2; or

¹ The third column of Table 14.2 specifies the date on which the Plan had legal effect in relation to Rule 14-2 in the targeted *Water Management Sub-zones**.

² As explained in footnote to Table 14.1, the Plan has legal effect in the case of dairy farming* from 24 August 2010 and for commercial vegetable growing*, cropping* and intensive sheep and beef* it has legal effect from 9 May 2013 for the purpose of regulating new intensive farming *land*[^] use activities under Rules 14-3 and 14-4.

- (ii) where the OVERSEER version used to estimate nitrogen leaching is different to the version used to derive the *cumulative nitrogen leaching maximums**, the equivalent maximums produced by the reference file system for any relevant *land use capability class** for that different version of OVERSEER,

unless the circumstances in Policy 14-6 apply.

- (e) New intensive farming *land^* uses regulated in accordance with (b)(ii) must be managed to ensure that the leaching of nitrogen from those *land^* uses does not exceed (d)(i) or (ii) above. ~~the cumulative nitrogen leaching maximum* values for each year contained in Table 14.2.~~
- (f) Intensive farming *land^* uses regulated in accordance with (b) must exclude cattle from:
- (i) A *wetland^* or *lake^* that is a *rare habitat**, *threatened habitat** or *at-risk habitat**.
 - (ii) Any *river^* that is permanently flowing or has an *active bed** width greater than 1 metre.
- (g) All places where cattle cross a river that is permanently flowing or has an *active bed** width greater than 1 metre must be culverted or bridged and those culverts or bridges must be used by cattle whenever they cross the river.

¹ The Plan has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing**, *cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013.

Policy 14-6: Resource consent decision-making for intensive farming land[^] uses

When making decisions on *resource consent*[^] applications, and setting consent *conditions*[^], for intensive farming *land*[^] uses the Regional Council must:

- (a) Ensure the nitrogen leaching from the land is managed in accordance with Policy 14-5.
- (b) An exception may be made to (a) for existing intensive farming *land*[^] uses in the following circumstances:
 - (i) to enable a transition to an alternative non-intensive farming *land*[^] use over a period of time not exceeding five years; or
 - (ii) the exceedance of the *cumulative nitrogen leaching maximums*^{*} is due to the calculation against Table 14-2 over-estimating nitrogen loss, as shown by the results of one or more scientifically robust models that estimate nitrogen loss and the opinion of a person who has a Certificate of Completion in Advanced Sustainable Nutrient Management from Massey University; or
 - ~~(iii) where the existing intensive farming *land*[^] use occurs on land that has 50% or higher of LUC Classes IV to VIII and has an average annual rainfall of 1500 mm or greater; or~~
 - (iii) where the existing intensive farming *land*[^] use cannot meet:
 - ~~year 1 the *cumulative nitrogen leaching maximums*^{*} in Table 14-2, or in year 1, they shall be managed through conditions on their resource consent to ensure year 1 *cumulative nitrogen leaching maximums*^{*} are met within 4 years.~~
 - the equivalent maximums produced using the reference file system that apply to any relevant *land use capability class*^{*}, where a different version of OVERSEER than that used to produce the *cumulative nitrogen leaching maximums*^{*} in Table 14.2 has been used to estimate nitrogen leaching (in accordance with Policy 14-X),
and a trajectory of staged reductions in nitrogen leaching is demonstrated.
- ~~(ba) Where resource consent is sought for an existing intensive farming land use on the basis of the exception specified in Policy 14-6(ii) or~~
~~(iii) the decision-maker must:~~
 - ~~(i) consider the contribution of the proposal to the maintenance and enhancement of mana whenua values, including those identified in Schedule B; and~~
 - ~~(ii) take into account all non-point source discharges of nitrogen in the catchment; and~~
 - ~~(iii) consider the extent of non-compliance with the cumulative nitrogen leaching maximums^{*} or the equivalent maximums produced using the reference file system and the timing of planned reductions in nitrogen leaching loss from the land; and~~
 - ~~(iv) make a decision consistent with having more intensive land uses on land units with higher productive capability and discouraging more intensive land uses on land units with lower productive capability, based on *land use capability class*^{*}; and~~
 - ~~(v) consider potential effects of nutrient leaching and run-off, faecal contamination and sediment losses from the *land*[^] on surface water[^] and groundwater receiving environments, recognizing the state, sensitivity and absorptive capacity of the receiving~~

- environment and of downstream lakes and wetlands; and
- (vi) only grant consent if doing so aligns with the strategies for surface water quality set out in Policies 5-2, 5-3, 5-4, and 5-5, and the strategy for ground water quality in Policy 5-6; and
 - (vii) have particular regard where, for commercial vegetable growing*, the growing area does not exceed the base line growing area* and, within 3 years of the granting of the application, the activity will achieve a minimum reduction in cumulative nitrogen leaching loss from the land^ of 35% relative to the base line growing area*.
- (c) Where an exception is made under Policy 14-6(b) to the cumulative nitrogen leaching maximum* the existing intensive farming land^ uses must be managed by consent conditions to ensure:
- (i) Good management practices to minimise the loss of nitrogen, phosphorus, faecal contamination and sediment are implemented.
 - (ii) Any losses of nitrogen, which cannot be minimised, are remedied or mitigated, including by other works or environmental compensation. Mitigation works may include but are not limited to, creation of wetland and riparian planted zones.
 - (iii) There is no increase in nutrient leaching and run-off, faecal contamination and sediment losses from the land^.
 - (iv) Resource consent is not granted for a period exceeding ten years.
 - (v) For commercial vegetation growing operations that cover more than one WMSZ, that projected discharges into different WMSZs remain appropriate after providing for crop rotation.
 - (vi) Any nitrogen leaching reductions required as a condition of consent are expressed as a percentage reduction from the baseline nitrogen leaching level as specified in the application.
- (d) Ensure that cattle are excluded from surface water-water^ in accordance with Policy 14-5 (f) and (g) except where landscape or geographical constraints make stock exclusion impractical and the effects of cattle stock movements are avoided, remedied or mitigated. In all cases the effects of any unavoidable losses of nitrogen, phosphorus, faecal contamination and sediment are remedied or mitigated by other works or environmental compensation. Mitigation works may include (but are not limited to) creation of wetland and riparian planted zones.

Policy 14-7: 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 14-8: 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 m³/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 m³/day or greater,
- (c) the installation of a Regional Council compatible telemetry system on *discharges*[^] of 300 m³/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.

Policy 14-9: Consent decision making requirements from the National Policy Statement for Freshwater Management

- (a) This policy applies to any application for the following *discharges*[^] (including a diffuse *discharge*[^] by any person or animal):
 - (i) a new *discharge*[^]; or
 - (ii) a change or increase in any *discharge*[^] –of any *contaminant*[^] into fresh *water*[^], or onto or into *land*[^] in circumstances that may result in that *contaminant*[^] (or, as a result of any natural process from the *discharge*[^] of that *contaminant*[^], any other *contaminant*[^]) entering fresh *water*[^].

- (b) When considering any application for a *discharge*[^] the Regional Council must have regard to the following matters:
- (i) the extent to which the *discharge*[^] would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh *water*[^] including on any ecosystem associated with fresh *water*[^]; and
 - (ii) the extent to which it is feasible and dependable that any more than minor adverse effect on fresh *water*[^], and on any ecosystem associated with fresh *water*[^], resulting from the *discharge*[^] would be avoided.
- This clause of the policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.
- (c) When considering any application for a *discharge*[^] the Regional Council must have regard to the following matters:
- (i) the extent to which the *discharge*[^] would avoid contamination that will have an adverse effect on the health of people and communities as affected by their secondary contact with fresh *water*[^]; and
 - (ii) the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their secondary contact with fresh *water*[^] resulting from the *discharge*[^] would be avoided.
- This clause of the policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 took effect on 4 July 2014.

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Rules - Agricultural Activities

The requirements specified in the Resource Management (National Environmental Standards for Freshwater) Regulations also apply, as rules, in addition to the following rules. One Plan users must refer to the Regulations and they should be read in conjunction with the following rules. Where there is conflict between the provisions of the Regulations and any of the following rules, the more stringent provision will apply.

Table 14.1 sets out the target *Water Management Sub-zones*^{*} where management of existing intensive farming *land*[^] use activities must be specifically controlled.

Table 14.1 Targeted *Water Management Sub-zones*^{*}

Catchment	<i>Water Management Sub-zone</i> [*]	Date the Rules of the Plan have legal effect ¹ in relation to Rule 14-1
Mangapapa	Mangapapa Mana_9b	1 July 2014
Waikawa	Waikawa West_9a Manakau West_9b	1 July 2014

² The Plan has legal effect in the case of *dairy farming*^{*} from 24 August 2010 and for *commercial vegetable growing*^{*}, *cropping*^{*} and *intensive sheep and beef*^{*} it has legal effect from 9 May 2013.

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Catchment	Water Management Sub-zone*	Date the Rules of the Plan have legal effect ² in relation to Rule 14-1
Other south-west catchments (Papaitonga)	Lake Papaitonga West_8	1 July 2014
Mangatainoka	Upper Mangatainoka Mana_8a Middle Mangatainoka Mana_8b Lower Mangatainoka Mana_8c Makakahi Mana_8d	1 July 2015
Other coastal lakes	Northern Manawatu Lakes West_6 Kaitoke Lakes West_4 Southern Wanganui Lakes West _5	1 July 2015
Coastal Rangitikei	Coastal Rangitikei Rang_4	1 July 2015
Lake Horowhenua	Lake Horowhena Hoki_1a Hokio Hoki_1b	1 July 2015
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 2016
Manawatu above gorge	Hopelands-Tiraumea Mana_6 Upper Gorge Mana_9a Mangaatua Mana_9c	1 July 2016

Table 14.2 sets out the *cumulative nitrogen leaching maximum** for the *land^* used for intensive farming *land^* use activities within each specified *land use capability class**. *The cumulative nitrogen leaching maximums* in Table 14-2 were derived using OVERSEER [insert version].*

Table 14.2 *Cumulative nitrogen leaching maximum* by Land Use Capability Class**

Period (from the year that the rule has legal effect ¹)	LUC* I	LUC* II	LUC* III	LUC* IV	LUC* V	LUC* VI	LUC* VII	LUC* VIII
Year 1	30	27	24	18	16	15	8	2
Year 5	27	25	21	16	13	10	6	2
Year 10	26	22	19	14	13	10	6	2
Year 20	25	21	18	13	12	10	6	2

Note M Scott 28 March 2024: Table 14.2 to be updated with recalibrated CNLMs using most recent version of OVERSEER at point of decision.

¹ The Plan has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing*, cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-1 Existing intensive farming land^ use activities	The use of <i>land^</i> pursuant to s9(2) RMA for any of the following types of intensive farming: (i) <i>dairy farming*</i> (ii) <i>commercial vegetable growing*</i> (iii) <i>cropping*</i> (iv) <i>intensive sheep and beef farming*</i> that was existing in the <i>Water Management Sub-zones*</i> listed in and from the dates specified in Table 14.1 and any of the following <i>discharges^</i> pursuant to ss15(1) or 15(2A) RMA associated with that intensive farming: (a) the <i>discharge^</i> of <i>fertiliser*</i> onto or into <i>land^</i> (b) the <i>discharge^</i> of <i>contaminants^</i> onto or into <i>land^</i> from	Controlled	(a) A <i>nutrient management plan*</i> must be prepared for the <i>land^</i>, and provided <i>annually</i> to the Regional Council <i>with the application for resource consent^</i> and thereafter as required by any <i>condition of resource consent^</i>. (b) The activity must be undertaken in accordance with the <i>nutrient management plan*</i> prepared under (a) (c) The <i>nutrient management plan*</i> prepared under (a) must demonstrate that the nitrogen leaching loss from the activity will not exceed: (i) the <i>cumulative nitrogen leaching maximum*</i> specified in Table 14.2. <i>where the nutrient management plan* was prepared and nitrogen leaching loss was estimated using the same version of OVERSEER as used to produce the cumulative nitrogen leaching maximums* in Table 14.2; or</i> (ii) <i>where the nutrient management plan was prepared and nitrogen leaching loss was estimated using a different version of OVERSEER as used to produce the cumulative nitrogen leaching maximums* in Table 14.2, the equivalent maximums</i>	Control is reserved over: (a) the <i>contents</i>, implementation, <i>and review</i> of the <i>nutrient management plan*</i> (b) compliance with the <i>cumulative nitrogen leaching maximum*</i> specified in Table 14.2 <i>or the equivalent maximums, produced using the reference file system, where a different version of OVERSEER than that used to cumulative nitrogen leaching maximums* in Table 14.2 has been used</i> (c) the matters of control in Rule 14-11 (d) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser*</i> drift or effluent drift (e) provision of information including

			for that different version of OVERSEER produced using the reference file system. (d) 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. (e) Rivers^ that are permanently flowing or have an active bed* width greater than 1 m, that are crossed by cattle must be bridged or culverted, and the cattle must	the nutrient management plan* (f) duration of consent (g) review of consent conditions^ (h) compliance monitoring and reporting (i) the matters in Policy Policies 14-5, 14-6, and 14-9.
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Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	(i) the preparation, storage, use or transportation of stock feed on <i>production land</i>[^] (ii) the use of a <i>feedpad</i>[*] (c) the <i>discharge</i>[^] of <i>grade Aa biosolids</i>[*] or <i>compost</i>[*] onto or into <i>production land</i>[^] (d) the <i>discharge</i>[^] of <i>poultry farm litter</i>[*] onto or into <i>production land</i>[^] (e) the <i>discharge</i>[^] of farm <i>animal effluent</i>[*] onto or into <i>production land</i>[^] (or upon expiry or surrender of any existing consent for that <i>discharge</i>[^]) including: (i) effluent from dairy sheds and <i>feedpads</i>[*] (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air pursuant to ss15(1) or 15(2A) RMA. Where the existing intensive farming <i>land</i>[^] use is located partly on land within one or more of the <i>water management subzones</i>[*] listed in Table 14.1 and partly on other land, this rule only applies: (a) if at least 20% of the existing intensive farming <i>land</i>[^] use is located on land within the listed <i>water management subzones</i>[*]; and (b) to the portion of the existing intensive farming <i>land</i>[^] use that is located within the listed <i>water management subzones</i>[*].		cross via that bridge or culvert, and run-off originating from the carriageway of the bridge or culvert must be <i>discharged</i>[^] onto or into <i>land</i>[^]. (f) The <i>discharge</i>[^] of <i>fertiliser</i>[*] onto or into <i>land</i>[^] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-5. (g) The <i>discharge</i>[^] of <i>contaminants</i>[^] onto or into <i>land</i>[^] from: (i) the preparation, storage, use or transportation of stock feed on <i>production land</i>[^], or (ii) the use of a <i>feedpad</i>[*] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-6. (h) The <i>discharge</i>[^] of <i>grade Aa biosolids</i>[*] or <i>compost</i>[*] onto or into <i>production land</i>[^] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-7. (i) The <i>discharge</i>[^] of <i>poultry farm litter</i>[*] onto or into <i>production land</i>[^] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-9. (j) The <i>discharge</i>[^] of farm <i>animal effluent</i>[*] onto or into <i>production land</i>[^] including: (i) effluent from dairy sheds and <i>feedpads</i>[*] (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^], standards and terms of Rule 14-11.	<i>Resource consent</i>[^] applications under this <i>rule</i>[^] will not be notified and written approval of affected persons will not be required (notice of applications need not be <i>served</i>[^] on affected persons).

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-2 Existing intensive farming land [^] use activities not complying with any of the conditions, standards and terms (e) to (k) of Rule 14-1	The use of land[^] pursuant to s9(2) RMA for any of the following intensive farming: (i) <i>dairy farming</i>[*] (ii) <i>commercial vegetable growing</i>[*] (iii) <i>cropping</i>[*] (iv) <i>intensive sheep and beef farming</i>[*] that was existing in the <i>Water Management Sub-zones</i>[*] listed in and from the dates specified in Table 14.1, and any of the following <i>discharges</i>[^] pursuant to ss15(1) or 15(2A) RMA associated with intensive farming, that do not comply with one or more of the <i>conditions</i>[^], standards and terms of Rule 14-1 <u>(except for (a), (b), (c), or (d))</u>: (a) the <i>discharge</i>[^] of <i>fertiliser</i>[*] onto or into land[^] (b) the <i>discharge</i>[^] of <i>contaminants</i>[^] onto or into land[^] from (i) the preparation, storage, use or transportation of stock feed on <i>production land</i>[^] (ii) the use of a <i>feedpad</i>[*] (c) the <i>discharge</i>[^] of <i>grade Aa biosolids</i>[*] or <i>compost</i>[*] onto or into <i>production land</i>[^] (d) the <i>discharge</i>[^] of <i>poultry farm litter</i>[*] onto or into <i>production land</i>[^] (e) the <i>discharge</i>[^] of <i>farm animal effluent</i>[*] onto or into <i>production land</i>[^] (or upon	Restricted Discretionary	(a) <u>The activity must comply with the requirements specified in conditions, standards and terms (a) to (d) of Rule 14-1.</u> (b) <u>The activity must comply with the requirements specified in conditions, standards, and terms (e) to (k) of Rule 14-1, except to the extent that consent is sought under Rule 14-2 to not comply with them.</u>	Discretion is restricted to: (a) <u>the contents, implementation, and review of the preparation of and compliance with a</u> <i>nutrient management plan</i>[*] for the land[^] (b) the extent of non-compliance with the <i>cumulative nitrogen leaching maximum</i>[*] specified in Table 14.2 <u>or the extent of non-compliance with the equivalent maximums, produced using the reference file system, where a different version of OVERSEER than that used to cumulative nitrogen leaching maximums</u>[*] in Table 14.2 has been <u>used</u> (c) measures to avoid, remedy or mitigate nutrient leaching, <u>and run-off</u>, faecal contamination and sediment losses from the land[^] (d) measures to exclude cattle from <i>wetlands</i>[^] and <i>lakes</i>[^] that are a <i>rare habitat</i>[*] or <i>threatened habitat</i>[*], and <i>rivers</i>[^] that are permanently flowing or have an <i>active bed</i>[*] width greater than 1 m (e) the bridging or culverting of <i>rivers</i>[^] that are permanently flowing or have an <i>active bed</i>[*] width greater than 1 m that are crossed by cattle (f) the matters referred to in the <i>conditions</i>[^] of Rules 14-5, 14-6, 14-7, and 14-9 (g) the matters referred to in the

				<i>conditions</i>[^] of Rule 14-11 and the matters of control in Rule 14-11 (h) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser</i>* drift or effluent drift (i) provision of information including the annual <i>nutrient management plan</i>*
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Discharges to Land and Water

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	expiry or surrender of any existing consent for that <i>discharge</i>[^]) including: (i) effluent from dairy sheds and <i>feedpads</i>* (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air pursuant to ss15(1) or 15(2A) RMA.			(j) duration of consent (k) review of consent <i>conditions</i>[^] (l) compliance monitoring (m) the matters in Policy 14-9.
<u>Rule 14-2A Existing intensive farming land[^] use activities not complying with conditions, standards, or terms (a) to (d) of Rule 14-1 or condition (a) of Rule 14-2.</u>	<u>The use of land[^] pursuant to s9(2) RMA for any of the following intensive farming:</u> (i) <u>dairy farming*</u> (ii) <u>commercial vegetable growing*</u> (iii) <u>cropping*</u> (iv) <u>intensive sheep and beef farming*</u> <u>that was existing in the <i>Water Management Sub-zones</i>* listed in and from the dates specified in Table 14.1, and any of the following discharges[^] pursuant to ss15(1) or 15(2A) RMA associated with intensive farming, that do not comply with conditions, standards and term (a) to (d) of Rule 14-1.</u>	Discretionary		

14-3 New intensive farming land[^] use activities	The use of <i>land[^]</i> pursuant to s9(2) RMA for any conversion to any of the following intensive farming: (i) <i>dairy farming*</i> (ii) <i>commercial vegetable growing*</i> (iii) <i>cropping*</i> (iv) <i>intensive sheep and beef farming*</i> that occurs from the date this rule has legal effect¹ anywhere within the Region and any of the following <i>discharges[^]</i> pursuant to ss15(1) or 15(2A) RMA associated with that intensive farming: (a) the <i>discharge[^]</i> of <i>fertiliser*</i> onto or into <i>land[^]</i> (b) the <i>discharge[^]</i> of <i>contaminants[^]</i> onto or into <i>land[^]</i> from (i) the preparation, storage, use or transportation of stock feed on <i>production land[^]</i>	Controlled	(a) A <i>nutrient management plan*</i> must be prepared for the <i>land[^]</i> and provided annually to the Regional Council. (b) The activity must be undertaken in accordance with the <i>nutrient management plan*</i> prepared under (a). (f) The <i>nutrient management plan*</i> prepared under (a) must demonstrate that the nitrogen leaching loss from the activity will not exceed: (i) the <i>cumulative nitrogen leaching maximum*</i> specified in Table 14.2. <i>where the nutrient management plan* was prepared and nitrogen leaching loss was estimated using the same version of OVERSEER as used to produce the cumulative nitrogen leaching maximums* in Table 14.2; or</i> (ii) <i>where the nutrient management plan was prepared and nitrogen leaching loss was estimated using a different version of OVERSEER as used to produce the cumulative nitrogen leaching maximums* in Table 14.2, the equivalent maximums for that different version of OVERSEER produced using the reference file system.</i> (c) Cattle must be excluded from: (i) <i>wetlands[^]</i> and <i>lakes[^]</i> that are a <i>rare habitat*</i> or <i>threatened habitat*</i>, and (ii) the <i>beds[^]</i> of <i>rivers[^]</i> that are permanently flowing or have an <i>active bed*</i> width greater than 1 m. (d) <i>Rivers[^]</i> that are permanently flowing or have an <i>active bed*</i> width greater than 1 m, that are crossed by cattle, must be bridged or culverted and the cattle must cross via that bridge or culvert, and run-off originating from the carriageway of the bridge or culvert must be <i>discharged[^]</i> onto or into <i>land[^]</i>.	Control is reserved over: (a) the implementation of the <i>nutrient management plan*</i> (b) compliance with the <i>cumulative nitrogen leaching maximum*</i> specified in Table 14.2 (c) the matters of control in Rule 14-11 (d) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser*</i> drift or effluent drift (e) provision of information including the <i>nutrient management plan*</i> (f) duration of consent (g) review of consent <i>conditions[^]</i> (h) compliance monitoring (i) the matters in Policy 14-9. <i>Resource consent[^]</i> applications under this <i>rule[^]</i> will not be notified and written approval of affected persons will not be required (notice of applications need not be <i>served[^]</i> on affected persons).
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⁴ The rule has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing**, *cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	(ii) the use of a <i>feedpad</i>* (c) the <i>discharge</i>^ of <i>grade Aa biosolids</i>*, or <i>compost</i>* onto or into <i>production land</i>^ (d) the <i>discharge</i>^ of <i>poultry farm litter</i>* onto or into <i>production land</i>^ (e) the <i>discharge</i>^ of <i>farm animal effluent</i>* onto or into <i>production land</i>^ including: (i) effluent from dairy sheds and <i>feedpads</i>* (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>^ of <i>contaminants</i>^ into air pursuant to ss15(1) or 15(2A) RMA.	Restricted Discretionary	(f) The <i>discharge</i>^ of <i>fertiliser</i>* onto or into <i>land</i>^ and any ancillary <i>discharge</i>^ of <i>contaminants</i>^ into air must comply with the <i>conditions</i>^ of Rule 14-5. (g) The <i>discharge</i>^ of <i>contaminants</i>^ onto or into <i>land</i>^ from: (i) the preparation, storage, use or transportation of stock feed on <i>production land</i>^, or (ii) the use of a <i>feedpad</i>* and any ancillary <i>discharge</i>^ of <i>contaminants</i>^ into air must comply with the <i>conditions</i>^ of Rule 14-6. (h) The <i>discharge</i>^ of <i>grade Aa biosolids</i>* or <i>compost</i>* onto or into <i>production land</i>^ and any ancillary <i>discharge</i>^ of <i>contaminants</i>^ into air must comply with the <i>conditions</i>^ of Rule 14-7. (i) The <i>discharge</i>^ of <i>poultry farm litter</i>* onto or into <i>production land</i>^ and any ancillary <i>discharge</i>^ of <i>contaminants</i>^ into air must comply with the <i>conditions</i>^ of Rule 14-9. (j) The <i>discharge</i>^ of <i>farm animal effluent</i>* onto or into <i>production land</i>^ including: (i) effluent from dairy sheds and <i>feedpads</i>* (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>^ of <i>contaminants</i>^ into air must comply with the <i>conditions</i>^, standards and terms of Rule 14-11.	
14-4 New intensive farming <i>land</i> ^ use activities not complying with Rule	The use of <i>land</i>^ pursuant to s9(2) RMA for any of the following intensive farming (i) <i>dairy farming</i>* (ii) <i>commercial vegetable growing</i>*	Restricted Discretionary		Discretion is restricted to: (a) preparation of and compliance with a <i>nutrient management plan</i>* for the <i>land</i>^

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-3	(iii) <i>cropping*</i> (iv) <i>intensive sheep and beef farming*</i> that occurs from the date this rule has legal effect¹ anywhere within the Region, and any of the following <i>discharges^</i> pursuant to ss15(1) or 15(2A) RMA associated with intensive farming, that do not comply with one or more of the <i>conditions^</i>, standards and terms of Rule 14-3: (a) the <i>discharge^</i> of <i>fertiliser*</i> onto or into <i>land^</i> (b) the <i>discharge^</i> of <i>contaminants^</i> onto or into <i>land^</i> from (i) the preparation, storage, use or transportation of stock feed on <i>production land^</i> (ii) the use of a <i>feedpad*</i> (c) the <i>discharge^</i> of <i>grade Aa biosolids*</i> or <i>compost*</i> onto or into <i>production land^</i> (d) the <i>discharge^</i> of <i>poultry farm litter*</i> onto or into <i>production land^</i> (e) the <i>discharge^</i> of <i>farm animal effluent*</i> onto or into <i>production land^</i> including: (i) effluent from dairy sheds and <i>feedpads*</i> (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent			(b) the extent of non-compliance with the <i>cumulative nitrogen leaching maximum*</i> specified in Table 14.2 (c) measures to avoid, remedy or mitigate nutrient leaching, faecal contamination and sediment losses from the <i>land^</i> (d) measures to exclude cattle from <i>wetlands^</i> and <i>lakes^</i> that are a <i>rare habitat*</i> or <i>threatened habitat*</i>, and <i>rivers^</i> that are permanently flowing or have an <i>active bed*</i> width greater than 1 m (e) the bridging or culverting of <i>rivers^</i> that are permanently flowing or have an <i>active bed*</i> width greater than 1 m that are crossed by cattle (f) the matters referred to in the <i>conditions^</i> of Rules 14-5, 14-6, 14-7, and 14-9 (g) the matters referred to in the <i>conditions^</i> of Rule 14-11 and the matters of control in Rule 14-11 (h) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser*</i> drift or effluent drift (i) provision of information including the annual <i>nutrient management plan*</i> (j) duration of consent (k) review of consent <i>conditions^</i> (l) compliance monitoring

¹ The rule has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing**, *cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	and any ancillary <i>discharge</i> [^] of <i>contaminants</i> [^] into air pursuant to ss15(1) or 15(2A) RMA.			(m) the matters in <i>Policy</i> Policies 14-5, 14-6 and 14-9.
14-5 Fertiliser*	The <i>discharge</i> [^] of <i>fertiliser</i> * onto or into <i>land</i> [^] pursuant to ss15(1) or 15(2A) RMA and any ancillary <i>discharge</i> [^] of <i>contaminants</i> [^] into air pursuant to ss15(1) or 15(2A) RMA, except where the <i>discharge</i> [^] is undertaken in association with a use of <i>land</i> [^] controlled by Rules 14-1 to 14-4.	Permitted	(a) There must be no direct <i>discharge</i>[^] of <i>fertiliser</i>* into any surface <i>water body</i>[^] or its <i>bed</i>[^] or <i>artificial watercourse</i>* other than as provided for under (b). (b) All reasonable measures must be taken to prevent: (i) any <i>discharge</i>[^] of <i>fertiliser</i>* within the <i>bed</i>[^] of a <i>river</i>[^] that is permanently flowing or has an <i>active bed</i>* width greater than 2 m, or any <i>lake</i>[^] or <i>wetland</i>[^] that has an area of 1 ha or more (ii) any <i>discharge</i>[^] into any <i>rare habitat</i>*, <i>threatened habitat</i>* or <i>at-risk habitat</i>*, except for the purpose of enhancing such habitats. Under condition (b) “reasonable measures” includes the use of GPS technology. (c) For <i>production land</i>[^] the <i>fertiliser</i>* must be <i>discharged</i>[^] in accordance with the Code of Practice for Nutrient Management (New Zealand Fertiliser Manufacturers’ Research Association, 2007). (d) Where nitrogen <i>fertiliser</i>* is <i>discharged</i>[^] onto <i>land</i>[^] in excess of 60 kgN/ha/year averaged across the 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 <i>fertiliser</i>* <i>discharge</i>[^] and be made available to the Regional Council upon request. If a <i>nutrient management plan</i>* is required under Rules 14-1, 14-2, 14-3 or 14-4 then the nutrient	Discretion is restricted to: (a) preparation of and compliance with a <i>nutrient management plan</i>* for the <i>land</i>[^]

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			budget required by this <i>condition</i>[^] must be consistent with it and the activity must be carried out in accordance with it. (e) The <i>discharge</i>[^] must not result in any offensive or objectionable odour or <i>fertiliser</i>[*] drift beyond the <i>property</i>[*] boundary.	
14-6 Stock feed including feedpads[*]	The <i>discharge</i>[^] of <i>contaminants</i>[^] onto or into <i>land</i>[^] pursuant to ss15(1) or 15(2A) RMA from: (a) the preparation, storage, use or transportation of stock feed on production land[^], or (a) the use of a feedpad[*] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air pursuant to ss15(1) or 15(2A) RMA, except where the <i>discharge</i>[^] is undertaken in association with a use of land[^] controlled by Rule 14-1 to 14-4.	Permitted	(a) All silage (excluding maize silage) storage pits that have an area greater than 500 m² and all <i>feedpads</i>[*], must be sealed to restrict seepage of <i>contaminants</i>[^]. The permeability of the sealing layer must not exceed 1x10⁻⁹ m/s. (b) All areas used for storing stock feed, for <i>feedpads</i>[*] 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 <i>water</i>[^] or <i>artificial watercourses</i>[*], is prevented (ii) run-off from the surrounding catchment is prevented from entering the area. (c) All areas used for storing stock feed, for <i>feedpads</i>[*] or for otherwise feeding stock (including feeding silage) must comply with the following separation distances: (i) 50 m from <i>rare habitats</i>[*], <i>threatened habitats</i>[*] and <i>at-risk habitats</i>[*], (ii) 20 m from <i>bores</i>[*], surface <i>water bodies</i>[^], <i>artificial watercourses</i>[*], and the <i>coastal marine area</i>[^], and (iii) 50 m from any <i>historic heritage</i>[^] identified in any <i>district plan</i>[^] or <i>regional plan</i>[^]. (d) All <i>animal effluent</i>[*] collected from <i>feedpads</i>[*] must be treated and <i>discharged</i>[^] in accordance with Rule 14-11. (e) The <i>discharge</i>[^] must not result in any offensive or objectionable odour or dust beyond the <i>property</i>[*] boundary.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-7 <i>Discharges[^] of grade Aa biosolids* and compost* to production land[^]</i>	The <i>discharge[^]</i> of <i>grade Aa biosolids*</i> or <i>compost*</i> onto or into <i>production land[^]</i> pursuant to ss15(1) or 15(2A) RMA, and any ancillary <i>discharge[^]</i> of <i>contaminants[^]</i> into air pursuant to ss15(1) or 15(2A) RMA, except where the <i>discharge[^]</i> is undertaken in association with a use of <i>land[^]</i> controlled by Rules 14-1 to 14-4.	Permitted	(a) There must be no direct <i>discharge[^]</i> or run-off into any surface <i>water body[^]</i> or its <i>bed[^]</i> or <i>artificial watercourse*</i>. (b) For <i>compost*</i> the material must not contain any human or animal pathogens, or any <i>hazardous substances*</i>. (c) For <i>grade Aa biosolids*</i> the <i>discharge[^]</i> must comply with the requirements for <i>grade Aa biosolids*</i> 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 of Biosolids to Land in New Zealand (New Zealand Water and Waste Association, August 2003). (d) The <i>discharge[^]</i> must comply with the following separation distances: (i) 50 m from <i>rare habitats*</i>, <i>threatened habitats*</i> and <i>at-risk habitats*</i> (ii) 20 m from <i>bores*</i>, surface <i>water bodies[^]</i>, <i>artificial watercourses*</i> and the <i>coastal marine area[^]</i> (iii) 50 m from any <i>historic heritage[^]</i> identified in any <i>district plan[^]</i> or <i>regional plan[^]</i>. (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 <i>discharge[^]</i> of the <i>grade Aa biosolids*</i> or <i>compost*</i>. If a <i>nutrient management plan*</i> is required under Rules 14-1 to 14-4 then the nutrient budget required by this <i>condition[^]</i> must be consistent with it and the activity must be carried out in accordance with it. (f) The <i>discharge[^]</i> must not result in any offensive or objectionable odour or dust beyond the <i>property*</i> boundary.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(g) The discharger must keep the following records: (i) a daily record of the <i>discharge</i>[^] volume and location (ii) a monthly (or more frequent) analysis of the nitrogen concentration of a <i>discharge</i>[^] sample and make these records available to the Regional Council upon request.	
14-8 Grade Ab, Ba or Bb biosolids*	The <i>discharge</i>[^] of grade Ab, Ba or Bb <i>biosolids</i>* onto or into <i>production land</i>[^] pursuant to ss15(1) or 15(2A) RMA, and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air pursuant to ss15(2) or 15(2A) RMA, except where the <i>discharge</i>[^] is undertaken in association with a use of <i>land</i>[^] controlled by Rules 14-1 to 14-4.	Restricted Discretionary	(a) There must be no direct <i>discharge</i>[^] or run-off into any surface <i>water body</i>[^] or its <i>bed</i>[^] or <i>artificial watercourse</i>*. (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). <i>Hazardous substances</i>* 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 <i>discharge</i>[^] 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 <i>property</i>* boundaries (iii) 50 m from <i>rare habitats</i>*, <i>threatened habitats</i>* and <i>at-risk habitats</i>* (iv) 20 m from <i>bore</i>s*, surface <i>water bodies</i>[^], <i>artificial watercourses</i>* and the <i>coastal marine area</i>[^] (v) 50 m from any <i>historic heritage</i>[^] identified in any <i>district plan</i>[^] or <i>regional plan</i>[^].	Discretion is reserved over: (a) the rate of <i>discharge</i>[^] and frequency of <i>discharge</i>[^] to control nutrient and contaminant loading rates (b) maintenance of vegetative cover in the area of <i>discharge</i>[^] (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 <i>conditions</i>[^] (h) compliance monitoring (i) the matters in Policy 14-9.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(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 <i>biosolids* discharge[^]</i>. If a <i>nutrient management plan*</i> is required under Rules 14-1 to 14-4 then the nutrient budget required by this <i>condition[^]</i> must be consistent with it and the activity must be carried out in accordance with it. (e) The <i>discharge[^]</i> must not result in any offensive or objectionable odour or dust beyond the <i>property*</i> boundary.	
14-9 Discharges[^] of poultry farm litter* or pig farm litter* and associated temporary stockpiling	The <i>discharge[^]</i> of <i>poultry farm litter*</i> or <i>pig farm litter*</i> and associated stockpiling onto or into <i>production land[^]</i> pursuant to ss15(1) or 15(2A) RMA and any ancillary <i>discharge[^]</i> of <i>contaminants[^]</i> into air pursuant to ss15(1) or 15(2A) RMA, except where the <i>discharge[^]</i> is undertaken in association with a use of <i>land[^]</i> controlled by Rules 14-1 to 14-4.	Permitted	(a) The rate of <i>discharge[^]</i> 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. (b) There must be no direct <i>discharge[^]</i> or run-off into any surface <i>water body[^]</i> or its <i>bed[^]</i> or <i>artificial watercourse*</i>. (c) The <i>discharge[^]</i> of <i>poultry farm litter*</i> or <i>pig farm litter*</i> 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 (ii) 50 m from <i>property*</i> boundaries (iii) 50 m from <i>rare habitats*</i>, <i>threatened habitats*</i> and <i>at-risk habitats*</i> (iv) 20 m from <i>bores*</i>, surface <i>water bodies[^]</i>, <i>artificial watercourses*</i> and the <i>coastal marine area[^]</i> (v) 50 m from any <i>historic heritage[^]</i> identified in any <i>district plan[^]</i> or <i>regional plan[^]</i>.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(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 <i>discharge</i>[^] of <i>poultry farm litter</i>[*] or <i>pig farm litter</i>[*]. If a <i>nutrient management plan</i>[*] is required under Rules 14-1 to 14-4 then the nutrient budget required by this <i>condition</i>[^] must be consistent with it and the activity must be carried out in accordance with it. (e) The <i>discharge</i>[^] of <i>poultry farm litter</i>[*] or <i>pig farm litter</i>[*] and associated temporary stockpiling must not result in any offensive or objectionable odour or dust beyond the <i>property</i>[*] boundary. (f) 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 <i>water</i>[^] or an <i>artificial watercourse</i>[*] is prevented (ii) run-off from the surrounding catchment is prevented from entering the area.	
14-10 Offal holes and farm dumps	The <i>discharge</i> [^] of <i>contaminants</i> [^] onto or into <i>production land</i> [^] pursuant to ss15(1), 15(2) or 15(2A) RMA associated with an offal hole or farm dump, and any ancillary <i>discharge</i> [^] of <i>contaminants</i> [^] into air pursuant to ss15(1) or 15(2A) RMA, except where the <i>discharge</i> [^] is undertaken in association with a use of <i>land</i> [^] controlled by Rules 14-1 to 14-4.	Permitted	(a) Only animal carcasses, or parts thereof, and <i>waste</i>[*], which is sourced from the <i>property</i>[*] on which the offal hole or farm dump is located, can be disposed of. (b) The <i>waste</i>[*] must not contain any <i>hazardous substances</i>[*] or sewage. (c) There must be no <i>discharge</i>[^] into any surface <i>water body</i>[^] or its <i>bed</i>[^] or <i>artificial watercourse</i>[*]. (d) The lowest point of the offal hole or farm dump must be at least 1 m above the seasonally highest <i>water</i>[^] table. (e) The offal hole or farm dump must comply with the following separation distances:	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(i) 150 m from any residential buildings, public places and amenity areas where people congregate, education facilities and public roads (ii) 10 m from <i>property</i>* boundaries (iii) 50 m from <i>rare habitats</i>*, <i>threatened habitats</i>* and <i>at-risk habitats</i>* (iv) 20 m from <i>bores</i>*, <i>surface water bodies</i>^, <i>artificial watercourses</i>* and the <i>coastal marine area</i>^ (v) 50 m from any <i>historic heritage</i>^ identified in any <i>district plan</i>^ or <i>regional plan</i>^. (f) Measures must be used as necessary to minimise animal pests from entering the offal hole or farm dump. (g) There must be no offensive or objectionable odour or dust beyond the <i>property</i>* boundary.	
14-11 Farm animal effluent* including effluent from dairy sheds, poultry farms and piggeries	The <i>discharge</i>^ of farm <i>animal effluent</i>* onto or into <i>production land</i>^ pursuant to ss15(1) or 15(2A) RMA including: (a) effluent from dairy sheds and <i>feedpads</i>* (b) effluent from piggeries (c) sludge from farm effluent ponds (d) poultry farm effluent and any ancillary <i>discharge</i>^ of <i>contaminants</i>^ into air pursuant to ss15(1) or 15(2A) RMA, except where the <i>discharge</i>^ is undertaken in association with a use of <i>land</i>^ controlled by Rules 14-1 to 14-4.	Controlled	(a) There must be no direct <i>discharge</i>^ or run-off of effluent into a surface <i>water body</i>^ or its <i>bed</i>^ or <i>artificial watercourse</i>*, 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 <i>operative</i>^. The permeability of the sealing layer must not exceed 1×10^{-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	Control is reserved over: (a) amount of effluent per <i>discharge</i>^ and frequency of <i>discharge</i>^ (b) effluent <i>discharge</i>^ volume and rate in relation to the infiltration rate and the available <i>water</i>^ storage capacity of the soil (deferred irrigation) (c) nitrogen loading in terms of kgN/ha/year and kgN/ha in any 24 hour period (d) 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

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(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 <i>discharge</i>[^] must comply with the following separation distances: (i) for <i>discharges</i>[^] of piggery effluent, 150 m from any residential buildings, public places and amenity areas where people congregate and education facilities (ii) for other <i>discharges</i>[^], 20 m from any residential buildings, public places and amenity areas where people congregate and education facilities (iii) for all <i>discharges</i>[^], 50 m from <i>rare habitats</i>*, <i>threatened habitats</i>* and <i>at-risk habitats</i>* (iv) for all <i>discharges</i>[^], 20 m from <i>bores</i>*, <i>surface water bodies</i>[^], <i>artificial watercourses</i>* and the <i>coastal marine area</i>[^] (v) for all <i>discharges</i>[^], 50 m from any <i>historic heritage</i>[^] identified in any <i>district plan</i>[^] or <i>regional plan</i>[^]. (d) Stormwater from ancillary roof areas, and hardstand areas which do not hold animals, must not <i>discharge</i>[^] 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 <i>animal effluent</i>* <i>discharge</i>[^]. If a <i>nutrient management plan</i>* is required under Rules 14-1 to 14-4 then the nutrient budget required by this <i>condition</i>[^] 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 <i>property</i>* boundary.	(e) measures to manage the ponding of effluent on the <i>discharge</i>[^] area (f) maintenance of vegetative cover on the <i>discharge</i>[^] area (g) management of odours arising from the effluent <i>discharge</i>[^] (h) contingency measures, including for events of mechanical failure and prolonged wet weather (i) duration of consent (j) review of consent <i>conditions</i>[^] (k) compliance monitoring (l) the matters in Policy 14-9. Except for new piggeries, <i>resource consent</i>[^] applications under this <i>rule</i>[^] will not be notified and written approval of affected persons will not be required (notice of applications need not be <i>served</i>[^] on affected persons).

Rule Guide:

The location of archaeological sites when defined by a single co-ordinate is unlikely to define the true extent of subsurface archaeological evidence. The 50 metre rule should apply from the outer perimeter of the site.

Some activities in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rules 13-8 and 13-9. 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 14-30.

Activities that do not comply - Except for Rule 14-3, 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 14-30.

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Rules - Discharges of Water

The requirements specified in the Resource Management (National Environmental Standards for Freshwater) Regulations also apply, as rules, in addition to the following rules. One Plan users must refer to the Regulations and they should be read in conjunction with the following rules. Where there is conflict between the provisions of the Regulations and Rule 14-12, the more stringent provision will apply.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-12 Discharges[^] of water[^] to water[^]	The <i>discharge[^]</i> of <i>water[^]</i> into <i>water[^]</i> pursuant to s15(1) RMA (excluding drainage <i>water[^]</i> which is regulated by Rules 16-10 and 16-11 and the <i>discharge[^]</i> of <i>water[^]</i> into <i>water[^]</i> that is part of the normal <i>operation[*]</i> of a dam which is regulated by Rule 17-7 or Rule 17-8).	Permitted	(a) The <i>discharge[^]</i> must not cause or exacerbate the flooding of any neighbouring <i>property[*]</i>. (b) The <i>discharge[^]</i> must not cause any scouring or erosion of any <i>land[^]</i> or <i>bed[^]</i> of a <i>water body[^]</i> beyond the point of <i>discharge[^]</i>. (c) The <i>discharge[^]</i> must not alter the natural course of any <i>water body[^]</i>. (d) The <i>discharge[^]</i> must not be to any <i>rare habitat[*]</i>, <i>threatened habitat[*]</i> or <i>at-risk habitat[*]</i> (<i>discharges[^]</i> into <i>at-risk habitats[*]</i> are <i>discretionary activities[^]</i> under Rule 13-8 and into <i>rare habitats[*]</i> or <i>threatened habitats[*]</i> are non-complying activities under Rule 139). (e) The <i>discharge[^]</i> must not, after <i>reasonable mixing[*]</i>, change the natural temperature of the receiving <i>water[^]</i> by more than the maximum temperature or temperature change specified by the water quality standards for the <i>Water Management Sub-zone[*]</i> listed in Schedule E.	

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 14-30.

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Rules - Human effluent and domestic wastewater*

The requirements specified in the Resource Management (National Environmental Standards for Freshwater) Regulations also apply, as rules, in addition to the following rules. One Plan users must refer to the Regulations and they should be read in conjunction with the following rules. Where there is conflict between the provisions of the Regulations and any of the following rules, the more stringent provision will apply.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-13 Existing discharges[^] of domestic wastewater*	The <i>discharge[^]</i> of <i>domestic wastewater*</i> onto or into <i>land[^]</i> pursuant to ss15(1) or 15(2A) RMA from an on-site wastewater treatment and <i>land[^]</i> application system and any ancillary <i>discharge[^]</i> of <i>contaminants[^]</i> into air pursuant to ss15(1) or 15(2A) RMA lawfully in existence at 1 July 2011. New and upgraded <i>discharges[^]</i> of <i>domestic wastewater*</i> are controlled by Rule 14-14.	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 m³/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 <i>water[^]</i> supply is provided by roof <i>water[^]</i> collection, or no less than 180 litres per person per day for other sources of <i>water[^]</i> supply. (c) The <i>discharge[^]</i> must consist only of <i>contaminants[^]</i> normally associated with domestic sewage and greywater. (d) There must be no direct <i>discharge[^]</i> of wastewater to groundwater. (e) The <i>discharge[^]</i> must comply with the following separation distances: (i) at least 20 m from any <i>bore*</i> used for drinking <i>water[^]</i> supply (ii) at least 20 m from surface <i>water bodies[^]</i>, <i>artificial watercourses*</i> and the <i>coastal marine area[^]</i>. (f) The <i>discharge[^]</i> must not cause any offensive or objectionable odour beyond the <i>property*</i> boundary. (g) There must be no increase in the concentration of pathogenic organisms in any surface <i>water body[^]</i> as a result of the <i>discharge[^]</i>. (h) The wastewater treatment and <i>land[^]</i> application system must be maintained by a manufacturer approved contractor in accordance with the supplier's specifications or the	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			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 <i>maintenance</i> * action must be retained and made available for inspection by the Regional Council or its agents upon request.	
14-14 New and upgraded discharges^ of domestic wastewater*	The <i>discharge</i> ^ of <i>domestic wastewater</i> * onto or into <i>land</i> ^ pursuant to ss15(1) or 15(2A) RMA and any ancillary <i>discharge</i> ^ of <i>contaminants</i> ^ into air pursuant to ss15(1) or 15(2A) RMA from a new or upgraded onsite wastewater treatment and <i>land</i> ^ application system which either: (a) is newly established after this <i>rule</i> ^ becomes <i>operative</i> ^, or (b) involves the <i>upgrade</i> * of a system that existed at the date that this <i>rule</i> ^ becomes <i>operative</i> ^.	Permitted	(a) The activity must comply with conditions (a) to (g) of Rule 14-13. (b) All aspects of the wastewater treatment and <i>land</i> ^ 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 <i>property</i> * within which the <i>discharge</i> ^ 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 <i>land</i> ^ 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 <i>property</i> * within which the <i>discharge</i> ^ occurs is less than 10 ha but 4 ha or greater: (i) the treatment system must be either secondary treatment which must achieve, as a minimum, the following <i>discharge</i> ^ quality standards: 20 g/m ³ Biochemical Oxygen Demand and 30 g/m ³	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			Suspended Solids or an improved primary septic tank and outlet filter (ii) the <i>land</i>[^] 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 <i>land</i>[^] application area must be no greater than 5 mm/d (5 litres per m² per day) for secondary treated effluent and no greater than 3 mm/d (3 litres per m² per day) for primary treated effluent. (e) Where the <i>property</i>[*] within which the <i>discharge</i>[^] occurs is less than 4 ha: (i) the <i>property</i>[*] must cover an area of at least either 5,000 m² for <i>properties</i>[*] created by subdivision after this <i>rule</i>[^] becomes <i>operative</i>[^], or 2,500 m² for <i>properties</i>[*] that existed at the date that this <i>rule</i>[^] becomes <i>operative</i>[^] (ii) the wastewater treatment system must include secondary treatment which must achieve, as a minimum, the following <i>discharge</i>[^] quality standards: 20 g/m³ Biochemical Oxygen Demand, 30 g/m³ Suspended Solids, and 60 g/m³ Total Nitrogen (iii) the <i>land</i>[^] application system must be via pumping to dose load pressure compensating dripper irrigation lines (iv) the areal loading rate within the wastewater	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			<i>land</i>[^] application area must be no greater than 3 mm/d (3 litres per m² per day) 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). (f) Separation distances to <i>water bodies</i>[^] and <i>property</i>[*] 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). (g) The placement, burial, covering and exclusion of the <i>land</i>[^] 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 <i>rare habitat</i>[*], <i>threatened habitat</i>[*] or <i>at-risk habitat</i>[*]. (j) The activity must not be to any <i>historic heritage</i>[^] identified in any <i>district plan</i>[^] or <i>regional plan</i>[^]. (k) The wastewater treatment and <i>land</i>[^] application system must be maintained by a manufacturerapproved 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 <i>maintenance</i>[*] action must be retained and made available for inspection by the Regional Council or its agents upon request. (l) The <i>discharge</i>[^] must not cause any offensive or objectionable odour beyond the <i>property</i>[*] boundary.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-15 Discharges[^] of domestic wastewater* not complying with Rules 14-13 and 14-14	The <i>discharge[^]</i> of <i>domestic wastewater*</i> onto or into <i>land[^]</i> pursuant to ss15(1) or 15(2A) RMA and any ancillary <i>discharge[^]</i> of <i>contaminants[^]</i> 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 <i>conditions[^]</i> of Rules 14-13 or 14-14.	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 <i>water[^]</i> supply is provided by roof <i>water[^]</i> collection, or no less than 180 litres per person per day for other sources of <i>water[^]</i> supply. (c) The <i>discharge[^]</i> must consist only of <i>contaminants[^]</i> normally associated with domestic sewage and greywater. (d) The activity must not take place in any <i>rare habitat*</i> , <i>threatened habitat*</i> or <i>at-risk habitat*</i> . (e) The activity must not be to any <i>historic heritage[^]</i> identified in any <i>district plan[^]</i> or <i>regional plan[^]</i> .	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 <i>land[^]</i> application (d) the <i>discharge[^]</i> quality, and allowable level of contamination (e) <i>environmental[^] effects[^]</i> arising from the location and method of disposal (f) the reserve application area (g) duration of consent (h) review of consent <i>conditions[^]</i> (i) compliance monitoring (j) the matters in Policy 14-9. <i>Resource consent[^]</i> applications under this <i>rule[^]</i> will not be notified and written approval of affected persons will not be required (notice of applications need not be <i>served[^]</i> on affected persons).

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-16 Human effluent storage and treatment facilities	The <i>discharge</i>[^] onto or into <i>land</i>[^] of human effluent pursuant to s15(1) or 15(2A) RMA for the purpose of storing or treating the effluent in ponds and any ancillary <i>discharge</i>[^] to air pursuant to s15(2A) RMA. Advice Note: This <i>rule</i>[^] controls sewage treatment and storage ponds but does not control <i>domestic wastewater</i>[*] treatment and disposal, which is controlled under Rules 14-13, 14-14 and 14-15.	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 1×10^{-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 <i>water bodies</i>[^], <i>artificial watercourses</i>[*] and the <i>coastal marine area</i>[^] is prevented (ii) run-off from the surrounding catchment is prevented from entering the area. (c) The <i>discharge</i>[^] must not result in any offensive or objectionable odour beyond the boundary of the subject <i>property</i>[*]. (d) The <i>discharge</i>[^] 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 <i>rare habitats</i>[*], <i>threatened habitats</i>[*] and <i>at-risk habitats</i>[*] (iii) 30 m from <i>bores</i>[*], surface <i>water bodies</i>[^], <i>artificial watercourses</i>[*] and the <i>coastal marine area</i>[^] (iv) 50 m from <i>historic heritage</i>[^] as identified in any <i>district plan</i>[^] or <i>regional plan</i>[^].	
14-17 Discharges[^] of untreated human effluent[*] directly into surface water[^]	The <i>discharge</i>[^] 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:

The location of archaeological sites when defined by a single co-ordinate is unlikely to define the true extent of subsurface archaeological evidence. The 50 metre rule should apply from the outer perimeter of the site.

Some discharges in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rules 13-8 and 13-9. 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 14-30.
- (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 14-30.

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Rules - Stormwater

The requirements specified in the Resource Management (National Environmental Standards for Freshwater) Regulations also apply, as rules, in addition to the following rules. One Plan users must refer to the Regulations and they should be read in conjunction with the following rules. Where there is conflict between the provisions of the Regulations and any of the following rules, the more stringent provision will apply.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-18 <i>Discharges^ of stormwater to surface water^ and land^</i>	The <i>discharge^</i> of stormwater into surface <i>water^</i> pursuant to s15(1) RMA or onto or into <i>land^</i> 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 <i>discharge^</i> must not include stormwater from any: (i) <i>industrial or trade premises^</i> where <i>hazardous substances^</i> stored or used may be entrained by the stormwater (ii) <i>contaminated land^</i> where the <i>contaminants^</i> of concern may be entrained by the stormwater (iii) operating quarry or <i>mineral^</i> extraction <i>site^</i> unless there is an <i>interceptor system^</i> in place. (b) The <i>discharge^</i> must not cause or exacerbate the flooding of any other <i>property^</i>. (c) The activity must not cause erosion of any <i>land^</i> or the <i>bed^</i> of any <i>water body^</i> beyond the point of <i>discharge^</i> unless this is not practicably avoidable, in which case any erosion that occurs as a result of the <i>discharge^</i> must be remedied as soon as practicable. (d) There must be no <i>discharge^</i> to any <i>rare habitat^</i>, <i>threatened habitat^</i>, <i>at-risk habitat^</i>, or reach of <i>river^</i> or its <i>bed^</i> with a Schedule B Value of Natural State. (e) For <i>discharges^</i> of stormwater onto or into <i>land^</i>: (i) the <i>discharge^</i> must be below a rate that would cause flooding outside the design <i>discharge^</i> 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 <i>discharge^</i> to a natural surface <i>water body^</i>, except in rain events equivalent to or greater than the 10% annual exceedance probability design storm	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(iii) the <i>discharge</i>[^] must not contain concentrations of <i>hazardous substances</i>[*] that are toxic to aquatic ecosystems, or accumulate in soil. (f) For <i>discharges</i>[^] of stormwater into surface <i>water bodies</i>[^] the <i>discharge</i>[^] must not cause any permanent reduction of the ability of the receiving <i>water body</i>[^] or its <i>bed</i>[^] to convey flood flows. (g) For <i>discharges</i>[^] of stormwater into surface <i>water bodies</i>[^] the <i>discharge</i>[^] must not cause, after <i>reasonable mixing</i>[*], any of the following <i>effects</i>[^] in the receiving <i>water body</i>[^]: (i) the production of conspicuous <i>oil</i>[*] or grease films, scums or foams, or floatable or suspended materials (ii) any conspicuous change in the colour or visual clarity of the receiving <i>water</i>[^] (iii) any emission of objectionable odour (iv) the rendering of fresh <i>water</i>[^] unsuitable for consumption by farm animals (v) toxicity to aquatic ecosystems. (h) The activity must not be to any <i>historic heritage</i>[^] identified in any <i>district plan</i>[^] or <i>regional plan</i>[^].	
14-19 Discharges[^] of stormwater to surface water[^] or land not complying with Rule 14-18	The <i>discharge</i> [^] of stormwater into surface <i>water</i> [^] pursuant to s15(1) RMA or onto or into <i>land</i> [^] pursuant to ss15(1) or 15(2A) RMA, which does not comply with Rule 14-18, 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 <i>discharge</i> [^] to any <i>rare habitat</i> [*] , <i>threatened habitat</i> [*] , <i>at-risk habitat</i> [*] , or reach of a <i>river</i> [^] or its <i>bed</i> [^] with a Schedule B Value of Natural State.	Discretion is reserved over: (a) measures to control flooding and erosion (b) <i>contaminant</i>[^] concentrations and loading rates (c) measures to avoid, remedy or mitigate adverse <i>effects</i>[^] on groundwater quality (d) measures to manage the level of soil contamination

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
				(e) measures required to comply with s107(1) RMA (f) measures to assist with maintaining or achieving the Schedule E <i>water quality targets</i>* for the relevant <i>Water Management Sub-zones</i>* (g) management of odours arising from the stormwater <i>discharge</i>^ (h) stormwater system <i>maintenance</i>* requirements (i) contingency requirements (j) monitoring and information requirements (k) duration of consent (l) review of consent <i>conditions</i>^ (m) the matters in Policy 14-9.

Rule Guide:

- (a) Some discharges in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rules 13-8 and 13-9.
- (b) Discharges in a reach of a river with a Schedule B Value of Natural State or Sites of Significance - Aquatic are regulated by Rule 14-25. 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 14-30. 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 14-19 are a **discretionary activity** under Rule 14-30.

14.7 Rules - Dyes and Tracers

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-20 Discharges[^] of dye and salt tracers	The <i>discharge[^]</i> of dye and salt tracer material, excluding radioisotope tracers, into surface <i>water[^]</i> pursuant to s15(1) RMA.	Permitted	(a) The dye or salt tracer material <i>discharged[^]</i> 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 <i>Territorial Authority[^]</i> must be notified in writing of the proposed <i>discharge[^]</i> at least 24 hours prior to the <i>discharge[^]</i>. Such notification must include: (i) the name and contact details of the person responsible for the <i>discharge[^]</i> (ii) the purpose and nature of the <i>discharge[^]</i> (iii) the nature of the tracer including its type, colour, and product name and description (iv) the location, timing and duration of the <i>discharge[^]</i>. (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 <i>discharge[^]</i> to any <i>rare habitat[*]</i>, <i>threatened habitat[*]</i>, <i>at-risk habitat[*]</i>, or reach of a <i>river[^]</i> or its <i>bed[^]</i> with a Schedule B 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 Rules 13-8 and 13-9.
- (b) Discharges in a reach of a river with a Schedule B Value of Natural State or Sites of Significance - Aquatic are regulated by Rule 14-25.

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 14-30.
- (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 14-30.

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

The requirements specified in the Resource Management (National Environmental Standards for Freshwater) Regulations also apply, as rules, in addition to the following rules. One Plan users must refer to the Regulations and they should be read in conjunction with the following rules. Where there is conflict between the provisions of the Regulations and any of the following rules, the more stringent provision will apply.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-21 <i>Discharges[^] of cleanfill material*</i>	The <i>discharge[^]</i> of <i>cleanfill material*</i> onto or into <i>land[^]</i> pursuant to ss15(1) or 15(2A) RMA and any ancillary <i>discharge[^]</i> of <i>contaminants[^]</i> into <i>water[^]</i> pursuant to s15(1) RMA or air pursuant to ss15(1) or 15(2A) RMA except as regulated by other <i>rules[^]</i> in this Plan. The stockpiling of gravel ancillary to gravel extraction and roading activities is not restricted by this <i>rule[^]</i> .	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 <i>cleanfill material*</i> <i>discharge[^]</i> must be no more than 2,500 m ³ /y per <i>property*</i> . (c) The <i>cleanfill material*</i> must not be <i>discharged[^]</i> within: (i) a <i>rare habitat*</i> , <i>threatened habitat*</i> or <i>at-risk habitat*</i> (ii) <i>land[^]</i> with a <i>slope*</i> greater than 20° (iii) 50 m from any <i>historic heritage[^]</i> identified in any <i>district plan[^]</i> or <i>regional plan[^]</i> . (d) Records of the source and composition of all <i>cleanfill material*</i> <i>discharged[^]</i> at the <i>site*</i> must be maintained and made available to the Regional Council upon request. (e) The <i>discharge[^]</i> of the <i>cleanfill material*</i> must be undertaken and maintained in a manner so as to ensure its long-term physical stability.	
14-22 <i>Composting*</i> activities	The <i>discharge[^]</i> of <i>contaminants[^]</i> onto or into <i>land[^]</i> pursuant to ss15(1) or 15(2A) RMA, or into air pursuant to ss15(1) or 15(2A) RMA arising from a <i>composting*</i> activity.	Permitted	(a) The material to be composted must be <i>green waste*</i> , and must not contain any <i>hazardous substance*</i> or sewage. (b) The activity must not be located within: (i) a <i>rare habitat*</i> , <i>threatened habitat*</i> or <i>at-risk habitat*</i> (ii) the <i>bed[^]</i> of a <i>river[^]</i> or <i>lake[^]</i>	

Discharges to Land and Water

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
			(iii) <i>land</i>[^] with a <i>slope</i>[*] greater than 20° (iv) 50 m from any <i>historic heritage</i>[^] identified in any <i>district plan</i>[^] or <i>regional plan</i>[^]. (c) All areas used for the <i>composting</i>[*] activity, including areas for storing <i>compost</i>[*], 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 <i>water</i>[^] or an <i>artificial watercourse</i>[*] is prevented (ii) run-off from the surrounding catchment is prevented from entering the area. (d) The <i>discharge</i>[^] must not cause any offensive or objectionable odour or dust beyond the <i>property</i>[*] boundary.	
14-23 Closed landfills [*]	The <i>discharge</i> [^] of <i>contaminants</i> [^] onto or into <i>land</i> [^] or into <i>water</i> [^] pursuant to ss15(1) or 15(2A) RMA or air pursuant to ss15(1) or 15(2A) RMA from a closed <i>solid waste</i> [*] <i>landfill</i> [*] .	Controlled		Control is reserved over: (a) measures to avoid adverse <i>effects</i>[^] on groundwater quality (b) measures to manage the level of soil contamination (c) measures to assist with maintaining or achieving the Schedule E <i>water quality targets</i>[*] for the relevant <i>Water Management Sub-zones</i>[*] (d) management of odour (e) stormwater management onto and from the <i>site</i>[*] (f) contingency requirements (g) monitoring and information requirements

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
				(h) duration of consent (i) review of consent conditions^ (j) the matters in Policy 14-9.
14-24 Discharges^ of persistent and harmful contaminants^	Any <i>discharge^</i> onto or into <i>land^</i> pursuant to ss15(1) or 15(2A) RMA, or into <i>water^</i> pursuant to s15(1) RMA, other than for <i>discharges^</i> of stormwater which are provided for by Rules 14-18 and 14-19, of: (a) wastewater sludge originating from timber treatment processes using copper chromium arsenic (CCA) wood preservatives (b) perchlorethylene-contaminated <i>waste^</i> from dry cleaning activities (c) persistent organochlorine substances (d) polyaromatic hydrocarbons (e) tributyl tin.	Non-complying		<i>Resource consent^</i> applications under this <i>rule^</i> will not be notified and written approval of affected persons will not be required (notice of applications need not be <i>served^</i> on affected persons).

Rule Guide:

- (a) The location of archaeological sites when defined by a single co-ordinate is unlikely to define the true extent of subsurface archaeological evidence. The 50 metre rule should apply from the outer perimeter of the site.
- (b) Some discharges in *rare habitats^*, *threatened habitats^* and *at-risk habitats^* are regulated by Rules 13-8 and 13-9.

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 14-30.
- (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 14-30.

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

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-25 <i>Discharges^ of contaminants^ to a reach of a river^ or its bed^ with Schedule B Values of Natural State and Sites of Significance - Aquatic</i>	Any direct <i>discharge^</i> of <i>contaminants^</i> into <i>water^</i> or onto or into <i>land^</i> pursuant to ss15(1) or 15(2A) RMA in: (a) a reach of a <i>river^</i> or its <i>bed^</i> with a Schedule B Value of Natural State (b) a reach of a surface <i>water body^</i> or its <i>bed^</i> with a Schedule B Value of Sites of Significance - Aquatic except the <i>discharge^</i> of <i>agricultural chemicals*</i> for the control of pest plants for the purposes of habitat maintenance or enhancement (this activity is regulated by Rule 15-2).	Discretionary		

1410

Rules - Generic Discharge Rules

The requirements specified in the Resource Management (National Environmental Standards for Freshwater) Regulations and the Resource Management (National Environmental Standards for Storing Tyres Outdoors) Regulations also apply, as rules, in addition to the following rules. One Plan users must refer to the Regulations and they should be read in conjunction with the following rules. Where there is conflict between the provisions of the Regulations and any of the following rules, the more stringent provision will apply.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-26 Discharges[^] of contaminants[^] to surface water[^]	The <i>discharge[^]</i> of <i>contaminants[^]</i> into surface <i>water[^]</i> pursuant to s15(1) RMA, except as regulated by other <i>rules[^]</i> in this Plan.	Permitted	(a) The rate of <i>discharge[^]</i> must be no greater than 50 m³/d. (b) The <i>discharge[^]</i> must not contain agricultural <i>waste[*]</i>, sewage, stormwater, <i>cleanfill material[*]</i>, <i>contaminants[^]</i> from <i>composting[*]</i> activities, or <i>contaminants[^]</i> from <i>landfills[*]</i>. (c) The <i>discharge[^]</i> must not cause or exacerbate the flooding of any other <i>property[*]</i>. (d) The <i>discharge[^]</i> must not cause any scouring or erosion of any <i>land[^]</i> or <i>bed[^]</i> of a <i>water body[^]</i> beyond the point of <i>discharge[^]</i>. (e) The <i>discharge[^]</i> must not alter the natural course of any <i>water body[^]</i> or its <i>bed[^]</i>. (f) There must be no <i>discharge[^]</i> to any natural <i>lake[^]</i>, <i>rare habitat[*]</i>, <i>threatened habitat[*]</i>, <i>at-risk habitat[*]</i>, Site of Significance - Aquatic or reach of a <i>river[^]</i> or its <i>bed[^]</i> with a Schedule B Value of Natural State. (g) The <i>discharge[^]</i> must not cause, after <i>reasonable mixing[*]</i>, any of the following <i>effects[^]</i> in the receiving <i>water body[^]</i>: (i) the production of conspicuous <i>oil[*]</i> or grease films, scums or foams, or floatable or suspended materials (ii) any conspicuous change in the colour or visual clarity of the receiving <i>water[^]</i> (iii) any emission of offensive or objectionable odour. (h) The <i>discharge[^]</i> must not, after <i>reasonable mixing[*]</i>, cause the receiving <i>water body[^]</i> to breach the water quality standards for that <i>water body[^]</i> set out in Schedule E, either from the <i>discharge[^]</i> itself or in combination with any other <i>discharges[^]</i>.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-27 <i>Discharges[^] of contaminants[^] onto or into land[^] that will not enter water[^]</i>	The <i>discharge[^]</i> of <i>contaminants[^]</i> onto or into <i>land[^]</i> in circumstances that will not result in any <i>contaminant[^]</i> entering <i>water[^]</i> , pursuant to ss15(1)(d) or 15(2A) RMA, except as regulated by other <i>rules[^]</i> in this Plan.	Permitted	(a) The rate of <i>discharge[^]</i> must be no more than 100 m³/y per <i>property[*]</i>. (b) The <i>discharge[^]</i> must not contain agricultural waste* (except for run-off from a stock crossing bridge or culvert required under Rules 14-1 to 14-4), sewage, stormwater, <i>cleanfill material[*]</i>, <i>contaminants[^]</i> from <i>composting[*]</i> activities, or <i>contaminants[^]</i> from <i>landfills[*]</i>. (c) The <i>discharge[^]</i> must not be located within: (i) any <i>rare habitat[*]</i>, <i>threatened habitat[*]</i> or <i>at-risk habitat[*]</i> (ii) the <i>bed[^]</i> of a <i>river[^]</i> or <i>lake[^]</i> (iii) <i>land[^]</i> with a <i>slope[*]</i> greater than 20° (iv) 50 m from any <i>historic heritage[^]</i> identified in any <i>district plan[^]</i> or <i>regional plan[^]</i>. (d) Records of the source and composition of the <i>discharge[^]</i> must be maintained and made available to the Regional Council upon request. (e) The <i>discharge[^]</i> must be undertaken and maintained in a manner so as to ensure its long-term stability, and avoid the risk of erosion. (f) The <i>discharge[^]</i> must not cause any increase in the concentration of <i>hazardous substances[*]</i> or pathogenic organisms on or in any <i>land[^]</i>. (g) The <i>discharge[^]</i> must not have any acid-producing potential. With the exception of standard (c)(i) in relation to any <i>rare habitat[*]</i> or <i>threatened habitat[*]</i> these standards do not apply to the <i>discharge[^]</i> of live ammunition for weapons training purposes on any defence area (as defined in section 2 of the Defence Act 1990) owned by the Crown where it is undertaken in accordance with that Act.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-28 <i>Discharges[^] of contaminants[^] onto or into land[^] that may enter water[^]</i>	The <i>discharge[^]</i> of <i>contaminants[^]</i> onto or into <i>land[^]</i> in circumstances which may result in those <i>contaminants[^]</i> (or any other <i>contaminant[^]</i> emanating as a result of natural processes from those <i>contaminants[^]</i>) entering <i>water[^]</i> , pursuant to ss15(1)(b) or 15(2A) RMA, except as regulated by other <i>rules[^]</i> in this Plan.	Permitted	(a) The <i>discharge[^]</i> must comply with all of the <i>conditions[^]</i> of Rule 14-26. (b) The <i>discharge[^]</i> must comply with all of the <i>conditions[^]</i> of Rule 14-27, except (a). (c) The <i>discharge[^]</i> must be at least 600 mm above the seasonally highest <i>water[^]</i> table. (d) The <i>discharge[^]</i> must comply with the following separation distances: (i) at least 30 m from any <i>bore[*]</i> (ii) at least 20 m from any surface <i>water body[^]</i>, <i>artificial watercourse[*]</i> and the <i>coastal marine area[^]</i>. (e) The <i>discharge[^]</i> must not be located within any <i>rare habitat[*]</i>, <i>threatened habitat[*]</i> or <i>at-risk habitat[*]</i>. (f) There must be no surface ponding in the area of <i>discharge[^]</i>, or run-off of any <i>contaminant[^]</i> into a surface <i>water body[^]</i> or its <i>bed[^]</i>, <i>artificial watercourse[*]</i> or the <i>coastal marine area[^]</i> as a result of the <i>discharge[^]</i>. (g) The <i>discharge[^]</i> must not cause any more than minor reduction in the quality of groundwater. (h) The <i>discharge[^]</i> must not result in any airborne liquid <i>contaminant[^]</i> being carried beyond the boundary of the <i>property[*]</i>. With the exception of standard (e) in relation to any <i>rare habitat[*]</i> or <i>threatened habitat[*]</i> these standards do not apply to the <i>discharge[^]</i> of live ammunition for weapons training purposes on any defence area (as defined in section 2 of the Defence Act 1990) owned by the Crown where it is undertaken in accordance with that Act.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-29 Replacement consents for discharges[^] of water[^] and contaminants[^] to water[^] and land[^] from existing hydroelectricity schemes	The <i>discharge[^]</i> of <i>water[^]</i> or <i>contaminants[^]</i> into <i>water[^]</i> or onto or into <i>land[^]</i> 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 <i>discharge[^]</i> or the nature of <i>contaminants[^]</i>. (b) The activity must not take place in any <i>rare habitat*</i>, <i>threatened habitat*</i> or <i>at-risk habitat*</i>.	Control is reserved over: (a) measures to control flooding and erosion (b) <i>contaminant[^]</i> concentrations and loading rates (c) measures required to comply with s107(1) RMA (d) measures to assist with maintaining or achieving the Schedule E <i>water quality targets*</i> for the relevant <i>Water Management Sub-zones*</i> (e) measures to avoid, remedy or mitigate any adverse <i>effects[^]</i> on the Values of the <i>water body[^]</i> at and below the point of discharge (f) measures to avoid, remedy or mitigate any adverse effects on the instream geomorphical components of the natural character of the waterbody (g) water levels, flow regime and minimum flows (h) maintenance and contingency requirements (i) monitoring and information requirements (j) measures to avoid, remedy or mitigate adverse <i>effects[^]</i> on <i>tangata whenua[^]</i> values (k) duration of consent (l) review of <i>consent conditions[^]</i> (m) compliance monitoring.

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
				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) The location of archaeological sites when defined by a single co-ordinate is unlikely to define the true extent of subsurface archaeological evidence. The 50 metre rule should apply from the outer perimeter of the site.
- (b) Some discharges pursuant to s15(1) RMA in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rules 13-8 and 13-9.
- (c) Discharges pursuant to ss15(1) or 15(2A) RMA in a reach of a river with a Schedule B Value of Natural State or Sites of Significance - Aquatic are regulated by Rule 14-25.

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 14-30.

14.11

Rules - Default Discharge Rule

The requirements specified in the Resource Management (National Environmental Standards for Freshwater) Regulations and the Resource Management (National Environmental Standards for Storing Tyres Outdoors) Regulations also apply, as rules, in addition to the following rules. One Plan users must refer to the Regulations and they should be read in conjunction with the following rules. Where there is conflict between the provisions of the Regulations and Rule 14-30, the more stringent provision will apply.

Discharges to Land and Water

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-30 <i>Discharges^ of water^ or contaminants^ to land^ or water^ not covered by other rules^ in this Plan or chapter</i>	The <i>discharge^</i> of <i>water^</i> or <i>contaminants^</i> into surface <i>water^</i> pursuant to s15(1) (a) RMA or <i>discharge^</i> of <i>contaminants^</i> onto or into <i>land^</i> pursuant to ss15(1) (b), 15(1)(d) or 15(2A) RMA which are not regulated by other <i>rules^</i> in this Plan, or which do not comply with the <i>permitted activity^</i> , <i>controlled activity^</i> or <i>restricted discretionary activity^ rules^</i> in this chapter.	Discretionary		

APPENDIX 2

Recommended Amendments to PC2 Provisions

In the PC2 provisions that follow:

Text shown in **black** (underlined and struck out) represents PC2 as notified on 22 July 2019.

Text shown in **green** (underlined and struck out) represents all changes recommended by the Panel since notification of PC2.

Text shown in **yellow-highlight** (underlined and struck out) represents all changes recommended by Mr Scott 28 March 2024

Policy 5-8: ~~Management and Regulation of intensive farming~~ Regulation of intensive farming *land*[^] use activities affecting groundwater and surface *water*[^] quality

~~in order to give effect to Policy Policies 5-2, 5-4, 5-5, 5-6 and 5-7, the effects of intensive farming *land*[^] use activities on groundwater and surface *water*[^] quality must be managed in the following manner:~~

(a) **Nutrients**

(i) Nitrogen leaching maximums must be established in the regional plan which:

(A) take into account all the ~~non-point~~ **non-point** sources of nitrogen in the catchment

(B) ~~will contribute to implementation of the strategy achieve the strategies for surface *water*[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5 and the strategy for groundwater quality set out in Policy 5-6.~~ **will achieve the strategies for surface *water*[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6**

~~(C)~~ (C) recognise the productive capability of *land*[^] in the *Water Management Sub-zone*^{*}

- ~~(C)~~ (D) are ~~achievable~~ ~~achieved~~ ~~achievable~~ on most farms using *good management practices** ~~and best management practices~~*
- ~~(D)~~ (E) provide for appropriate timeframes for achievement ~~where large changes to management practices or high levels of investment are required to achieve the nitrogen leaching maximums~~ where large changes to management practices or high levels of investment are required to achieve the nitrogen leaching maximums.
- (ii) Existing intensive farming *land*[^] use activities must ~~generally~~ be regulated in targeted *Water Management Sub-zones** to achieve the nitrogen leaching maximums specified in (i) ~~except as provided for in (iia) and (iib) below.~~
- (iia) ~~E~~ For existing intensive farming *land*[^] use activities which that do not achieve the nitrogen leaching maximums established under (i), the regional plan must provide that any consents granted: ~~comply with (iii) must be regulated to reduce nitrogen leaching loss from the *land*[^] to the maximum extent reasonably practicable in the shortest feasible timeframe which is in excess of the nitrogen leaching maximums established under (a) by implementing measures, including *good management practice**, and additional measures, to minimise the degree of non-compliance, having regard to:~~
- ~~(A)~~ take into account all the non-point sources of nitrogen in the catchment
 - ~~(B)~~ will achieve the strategies ~~strategy~~ for surface *water*[^] quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for ground water quality in Policy 5-6
 - ~~(C)~~ recognise the productive capability of *land*[^] in the *Water Management Sub-zone**
 - ~~(D)~~ are of limited duration.
 - ~~(E)~~ the contribution of the nitrogen leaching loss from the *land*[^] to cumulative nitrogen leaching loss within the *Water Management Sub-zone**
 - ~~(F)~~ the actual and potential effects of the nitrogen leaching loss from the *land*[^] on downstream groundwater and surface *water*[^] quality;
 - ~~(G)~~ the extent of non-compliance with the nitrogen leaching maximums specified in (a) (i) and the timing of planned reductions in nitrogen leaching loss from the *land*[^];
 - ~~(H)~~ (A) the feasibility, practicality, and cost of implementing measures to achieve achieving the nitrogen leaching maximums specified in (a) (i) having regard to the *land use capability class** of the *land*[^]; and
- ~~(iib) Existing intensive farming *land*[^] use activities which do not comply with (ii) but which demonstrate are intended to the intention to transition to an alternative non-intensive farming *land*[^] use must be regulated to ensure that they are able to continue for a limited period not exceeding five years of time in order to enable that transition and only where there is no increase in the exceedance of the nitrogen leaching loss~~

from the existing intensive farming *land*[^] use activity during that period, maximums established under (a).

- (iii) New intensive farming *land*[^] use activities must be regulated throughout the Region to achieve the nitrogen leaching maximums specified in (i).

(b) **Faecal contamination**

- (i) Those persons carrying out existing intensive farming *land*[^] use activities in the targeted *Water Management Sub-zones*^{*} listed in Table 14.1 or new conversions to intensive farming *land*[^] use activities anywhere in the Region must be required, amongst other things, to:
- (A) prevent cattle access to some surface *water bodies*[^] and their *beds*[^]
 - (B) mitigate faecal contamination of surface *water*[^] from other entry points (eg., ~~face~~ run-off from races, feed pads and paddocks)
 - (C) establish programmes for implementing any required changes.

(c) **Sediment**

- (i) In those *Water Management Sub-zones*^{*} where agricultural *land*[^] use activities are the predominant cause of elevated sediment levels in surface *water*[^], the Regional Council will promote the preparation of voluntary management plans under the Council's Sustainable Land Use Initiative or Whanganui Catchment Strategy for the purpose of reducing the risk of *accelerated erosion*^{*}, as described in Chapter 4.

(d) **Good management practices^{*}**

- (i) All intensive farming *land*[^] use activities must be regulated to, as a minimum, implement *good management practices*^{*} to manage nutrient leaching and run-off, faecal contamination, and sediment losses. ~~in accordance with good management practices~~.

Method 5-12	Innovative Land Use Research
Description	Support initiatives by local communities, sector groups or tangata whenua which develop options for sustainable land use in the Region. Support for work in <i>Water Management Sub-zones*</i> where nitrogen leaching is an issue, as identified in Table 14.1, will be a priority in order to find viable options (including nitrogen loss mitigation options) for intensive farming land users that will have difficulty in reducing nitrogen loss to the extent necessary to achieve the nitrogen leaching maximums specified in the One Plan rules. ~~achieving the cumulative nitrogen leaching maximums* (refer Table 14.1).~~ Horizons will provide assistance through providing data and information that will assist in the identification and evaluation of innovative nitrogen loss mitigations or land use options and participating in any evaluative work as appropriate.
Who	Local communities, including tangata whenua, rural and other sector groups, Territorial Authorities, and Regional Council (in consultation with tangata whenua). -
Links to Policy	This method implements Policies 5-7 and 5-8.
Target	Advice and assistance is available for landowners and tangata whenua in the Region regarding land use management practices.

Method 5-13	Provision of Information
Description	Horizons will collate and publish information regarding Overseer <u>version changes</u> and the identification and evaluation of nutrient management models other than Overseer that may be more appropriate for calculation of on-farm nutrient losses. <u>Horizons will register and maintain Overseer files for synthetic farm systems simulating the range of intensive farming land uses regulated under the One Plan. Horizons will make publicly available the estimated nitrogen leaching loss values for those synthetic farm systems, including values amended by Overseer version updates. Horizons will have regard to the impact of Overseer version updates, (as demonstrated by changes in the estimated nitrogen leaching loss values of the synthetic farms over time), when considering applications for consent for IFLU activities and in compliance monitoring.</u>
Who	Regional Council, <u>tangata whenua</u> , rural sector groups, and nutrient management model providers.
Links to Policy	This method implements Policy 5-8.
Target	• Horizons will have publicly available information regarding OVERSEER and other nutrient management models to assist applicants. <u>update Table 14.2 consider whether it needs to respond to changes in Overseer through a plan change process (where necessary) and will provide clarification within the One Plan of the methodology used to establish the Cumulative Nitrogen Leaching Maximums* in Table 14.2.</u> • <u>Horizons will maintain representative Overseer farm system reference files and make their base files and nitrogen leaching loss estimates available on its website.</u> • <u>Horizons will recognise the impact of Overseer version upgrades when comparing the outputs from future versions of Overseer with Table 14.2 CNLM values and with nitrogen leaching limits specified in consent conditions, to ensure comparability between Overseer estimates over time.</u>

	• <u>A list of nutrient management models appropriate for use in intensive farming land is maintained on Horizons' website.</u>
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Method 5-14	Reference file system
Description	The aim of this method is to set up, maintain, use, and make publicly available an OVERSEER reference file system. This will be achieved by: • The Regional Council compiling baseline reference files using OVERSEER version [insert as used for final updated Table 14.2] which represent typical farm systems across the region with nitrogen leaching that meets the <i>cumulative nitrogen leaching maximums</i> on each of LUC class 1-8 land. • The Regional Council holding the license for OVERSEER for these baseline reference files and making them (and the features that were used as inputs in OVERSEER) publicly available on its website or as part of the regional plan. • Each time a new version of OVERSEER is released, the Regional Council determining the nitrogen leaching loss numbers for each reference file and making these publicly available on its website. The figure determined for the reference file for each of LUC class 1-8 represents what the <i>cumulative nitrogen leaching maximum</i> would be for that LUC class under the new version of OVERSEER; they represent

	the reference file system equivalents of the <i>cumulative nitrogen leaching maximums</i> for that new version of OVERSEER. • The Regional Council using the reference file system, and the <i>cumulative nitrogen leaching maximum</i> equivalents determined using that system, to assess applications for intensive farming land uses where the nitrogen leaching losses in those applications have been estimated using a different, newer version of OVERSEER to that used to derive the <i>cumulative nitrogen leaching maximums</i>. • The Regional Council using the reference file system for compliance monitoring of resource consents for intensive farming land uses where any nitrogen leaching losses are being estimated using a different, newer version of OVERSEER than that used to determine any nitrogen leaching limits specified in the conditions of consent. • The Regional Council to consider whether a plan change is required to update Table 14.2 using the reference file system each time OVERSEER is updated.
Who	Regional Council, OVERSEER and farm systems technical experts.

Links to Policy	The method implements Policy 5-8
Targets	A process is built into the One Plan which will: • Manage the implications to the <i>cumulative nitrogen leaching maximums</i> of OVERSEER version changes. • Enable applicants to determine if they do or do not comply with the <i>cumulative nitrogen leaching maximums</i> in situations where nutrient leaching is estimated using a different version of OVERSEER than used to derive the <i>cumulative nitrogen leaching maximums</i>. • Ensure that applications, conditions and enforcement are based on leaching estimates that are fair, transparent and current.

Policy 14-3: ~~Industry-based standards~~ *Good management practices Industry-based standards**

~~When making decisions on resource consent^Δ applications, and setting consent conditions, for activities affecting groundwater and surface water^Δ quality, the~~ 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^Δ ~~must have regard to good management practices*, and additional measures for decreasing nitrogen leaching.~~ 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^Δ to the extent that those standards *good management practices* and measures* standards address the matters in Policies 14-1, 14-2, 14-4, and ~~and 14-5, and 14-6 and contribute to decreasing contaminant loads in the relevant water management sub-zone*.~~

Policy 14-X: Ensuring consistency between cumulative nitrogen leaching maximums* and farm nitrogen leaching estimates

In the event that the OVERSEER version used to derive the cumulative nitrogen leaching maximums* in Table 14-2 is different to the version used to estimate on-farm nitrogen leaching, decision-makers must assess estimated on-farm nitrogen leaching against the equivalent maximums for any relevant land use capability class* produced by the reference file system for that different version of OVERSEER

Policy 14-5: Management of intensive farming land^ uses

In order to give effect to Policy 5-7 and Policy 5-8, intensive farming land^ use activities affecting groundwater and surface water^ quality must be managed in the following manner:

- (a) The following land uses have been identified as intensive farming land^ uses:
 - (i) *Dairy farming**
 - (ii) *Commercial vegetable growing**
 - (iii) *Cropping**
 - (iv) *Intensive sheep and beef**
- (b) The intensive farming land^ uses identified in (a) must be regulated where:
 - (i) They are existing (i.e., established prior to the Plan having legal effect) intensive farming land^ uses (i.e. established prior to the date specified in Table 14.1 on which Rule 14-1 had legal effect¹), in the targeted *Water Management Sub-zones** identified in Table 14.1¹.

¹ The Plan has legal effect in the case of existing intensive farming land^ uses in those zones from the dates identified in Table 14.1 – The third column of Table 14.1 specifies the date on which the Plan had legal effect in relation to Rule 14- 1 in the targeted Water Management Sub-zones*.

- (ii) They are new (ie. established after the Plan has legal effect¹) intensive farming *land*[^] uses, in ~~all~~ any *Water Management Sub-zones*^{*} in the Region (that is, established after the date the Plan had legal effect, which is 24 August 2010 for *dairy farming*^{*} and 9 May 2013 for *commercial vegetable growing*^{*}, *cropping*^{*} and *intensive sheep and beef*^{*2}).
- (c) Nitrogen leaching maximums have been established in Table 14.2.
- (d) ~~Except as provided for in Policy 14-6(d),~~ Existing intensive farming *land*[^] uses regulated in accordance with (b)(i) must be managed to ensure that the projected long-term average leaching of nitrogen from those *land*[^] uses does not exceed one of the parameters specified in (i), (ii) or (iii) below:
- the cumulative nitrogen leaching maximum^{*} values for each year contained in Table 14.2 where the OVERSEER version used to estimate nitrogen leaching is the same as the version used to produce the cumulative nitrogen leaching maximums^{*} in Table 14.2, unless the circumstances in Policy 14-6 apply; or
 - where the OVERSEER version used to estimate nitrogen leaching is different to the version used to derive the cumulative nitrogen leaching maximums^{*}, the equivalent maximums produced by the reference file system for any relevant land use capability class^{*} for that different version of OVERSEER,
unless the circumstances in Policy 14-6 apply.
 - the lesser of 80% of the land's nitrogen leaching baseline^{*} or the 75th percentile nitrogen leaching loss for the relevant water management zone^{*}; or
 - for commercial vegetable growing^{*}, the growing area does not exceed the area of commercial vegetable growing^{*} of the baseline growing period^{*} and the activity implements good management practice^{*} and best management practice^{*} to achieve, within 3 years of lodgement of the application, a minimum reduction in cumulative nitrogen leaching loss from the land[^] of 35% relative to the baseline growing period^{*};
provided that, in (ii) and (iii) above, the application for consent is lodged no later than 31 December 2022.
- (e) New intensive farming *land*[^] uses regulated in accordance with (b) (ii) must be managed to ensure that the leaching of nitrogen from those *land*[^] uses does not exceed (d)(i) or (ii) above. the cumulative nitrogen leaching maximum^{*} values for each year contained in Table 14.2.
- (f) Intensive farming *land*[^] uses regulated in accordance with (b) must exclude cattle from:
- A *wetland*[^] or *lake*[^] that is a *rare habitat*^{*}, *threatened habitat*^{*} or *at-risk habitat*^{*}.
 - Any *river*[^] that is permanently flowing or has an *active bed*^{*} width greater than 1 metre.
- (g) All places where cattle cross a river that is permanently flowing or has an *active bed*^{*} width greater than 1 metre must be culverted or bridged and those culverts or bridges must be used by cattle whenever they cross the river.

² As explained in footnote 3 to Table 14.1, the Plan has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing**, *cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013 [for the purpose of regulating new intensive farming land*](#) use activities under Rules 14-3 and 14-4.

Policy 14-6: Resource consent decision-making for intensive farming *land*[^] uses

When making decisions on *resource consent*[^] applications, and setting consent *conditions*[^], for intensive farming *land*[^] uses the Regional Council must:

- (a) Ensure the nitrogen leaching from the *land*[^] is managed in accordance with Policy 14-5.
- (b) An exception may be made to (a) for existing intensive farming *land*[^] uses in the following circumstances: ~~Ensure Require implementation of good management practices*, and additional measures where necessary, to manage nutrient leaching and run off, faecal contamination and sediment loss, as part of any intensive farming *land*[^] use.~~

An exception may be made to (a) for existing intensive farming *land*[^] uses in the following circumstances:

- (i) ~~to enable a transition to an alternative non-intensive farming *land*[^] use over a period of time not exceeding five years; or~~ where the existing intensive farming *land*[^] use occurs on land that has 50% or higher LUC Classes IV to VIII and has average annual rainfall of 1500mm or greater; ~~or~~
- (ii) ~~The exceedance of the cumulative nitrogen leaching maximums* is due to the calculation against Table 14-2 over-estimating nitrogen loss, as shown by the results of one or more scientifically robust models that estimate nitrogen loss and the opinion of a person who has a Certificate of Completion in Advanced Sustainable Nutrient Management from Massey University; or~~ where the existing intensive farming *land*[^] use cannot meet year 1 cumulative nitrogen leaching maximums* in year 1, they shall be managed through conditions on their resource consent to ensure year 1 cumulative nitrogen leaching maximums* are met within 4 years.
- (iii) ~~Where the existing intensive farming *land*[^] use cannot meet:~~
- ~~the cumulative nitrogen leaching maximums* in Table 14-2; or~~
 - the equivalent maximums produced using the reference file system that apply to any relevant *land use capability class*^{*}, where a different version of OVERSEER than that used to produce the cumulative nitrogen leaching maximums* in Table 14.2 has been used to estimate nitrogen leaching (in accordance with Policy 14-X),
- ~~and a trajectory of staged reductions in nitrogen leaching is demonstrated.~~

- (ba) Where resource consent is sought for an existing intensive farming land use on the basis of the exception specified in Policy 14-6(ii) or (iii) the decision-maker must:

- (i) consider the contribution of the proposal to the maintenance and enhancement of mana whenua values, including those identified in Schedule B; and
- (ii) take into account all non-point source discharges of nitrogen in the catchment; and
- (iii) consider the extent of non-compliance with the cumulative nitrogen leaching maximums* or the equivalent maximums produced using the reference file system and the timing of planned reductions in nitrogen leaching loss from the land; and
- (iv) make a decision consistent with having more intensive land uses on land units with higher productive capability and discouraging more intensive land uses on land units with lower productive capability, based on land use capability class*; and
- (v) consider potential effects of nutrient leaching and run-off, faecal contamination and sediment losses from the land^ on surface water^ and groundwater receiving environments, recognizing the state, sensitivity and absorptive capacity of the receiving environment and of downstream lakes and wetlands; and
- (vi) only grant consent if doing so aligns with the strategies for surface water quality set out in Policies 5-2, 5-3, 5-4, and 5-5, and the strategy for ground water quality in Policy 5-6; and
- (vii) have particular regard where, for *commercial vegetable growing**, the growing area does not exceed the base line growing area* and, within 3 years of the granting of the application, the activity will achieve a minimum reduction in cumulative nitrogen leaching loss from the land^ of 35% relative to the base line growing area*.

~~Where an exception is made to the cumulative nitrogen leaching maximum* the existing intensive farming land^ uses must be managed by consent conditions to ensure:~~

- ~~(i) Good management practices to minimise the loss of nitrogen, phosphorus, faecal contamination and sediment are implemented.~~
- ~~(ii) Any losses of nitrogen, which cannot be minimised, are remedied or mitigated, including by other works or environmental compensation. Mitigation works may include but are not limited to, creation of wetland and riparian planted zones.~~

(c) Where an exception is made under Policy 14-6(b) the existing intensive farming land^ uses must be managed by consent conditions to ensure:

- (i) Good management practices to minimise the loss of nitrogen, phosphorus, faecal contamination and sediment are implemented.
- (ii) Any losses of nitrogen, which cannot be minimised, are remedied or mitigated, including by other works or environmental compensation. Mitigation works may include but are not limited to, creation of wetland and riparian planted zones.

- (iii) There is no increase in nutrient leaching and run-off, faecal contamination and sediment losses from the *land*[^].
- (iv) Resource consent is not granted for a period exceeding ten years.
- (v) For commercial vegetation growing operations that cover more than one WMSZ, that projected discharges into different WMSZs remain appropriate after providing for crop rotation.
- (vi) Any nitrogen leaching reductions required as a condition of consent are expressed as a percentage reduction from the baseline nitrogen leaching level as specified in the application.

(d) Ensure that cattle are excluded from surface ~~water~~ *water*[^] in accordance with Policy 14-5 (f) and (g) except where landscape or geographical constraints make stock exclusion impractical ~~and the effects of stock movements are avoided, remedied or mitigated.~~ ~~and the effects of cattle stock movements are must be avoided, remedied or mitigated.~~ In all cases, ~~the effects of~~ any unavoidable losses of nitrogen, phosphorus, faecal contamination and sediment ~~are must be~~ avoided remedied or mitigated by other works or environmental compensation. ~~Mitigation works may include (but are not limited to) creation of wetland and riparian planted zones.~~ ~~Mitigation works may include (but are not limited to) creation of~~ wetland and riparian planted zones.

(e) Provide for exceptions to (a) for existing intensive farming *land*[^] uses that exceed the parameters *cumulative nitrogen leaching maximum*^{*} specified in Policy 14-5 (d) only where:

- (i) *Good management practices** are implemented in accordance with a *nutrient management plan** specifying timelines and N leaching targets, along with additional innovations and measures to further reduce ensure nutrient leaching and run-off, faecal contamination and sediment losses from the *land^Δ* are reduced to the maximum reasonably practicable extent as soon as reasonably feasible progressively over time; or
- (iii) The existing intensive farming *land^Δ* use is to continue for no longer than five years in order to enable the transition to an alternative non-intensive farming *land^Δ* use without an increase in nutrient leaching and run-off, faecal contamination and sediment losses from the *land^Δ* over that period of time.

(f) When determining whether to enable an existing intensive farming *land^Δ* use to continue under (d)(i), have particular regard to:

- (i) The extent of the activity's exceedance of the parameters specified in Policy 14.5(d) and the contribution of the nitrogen leaching loss from the *land^Δ* to cumulative nitrogen leaching loss within the relevant *Water Management Sub-Zone**;
- (ii) Proportionality in ensuring that the existing intensive farming *land^Δ* uses that have high nitrogen leaching loss relative to the *cumulative nitrogen leaching maximum** values specified in Table 14.2 are required to make appropriately proportionate reductions in nitrogen leaching loss;
- (iii) Whether the proposed *good management practices** innovations and mitigation measures proposed to manage nutrient leaching and run-off, faecal contamination and sediment losses from the *land^Δ* represent the *best practicable option^Δ* to minimise these contaminants, nutrient leaching and run-off, faecal contamination and sediment losses from the *land^Δ*, having particular regard to:
 - (A) The feasibility, practicality and financial implications of implementing alternative measures that could achieve the parameters described in Policy 14.5(d);
 - (B) The extent of the exceedance of the *cumulative nitrogen leaching maximum** in Table 14.2;
 - (C) The rate of reduction of nitrogen loss towards the parameters described in Policy 14.5(d); *cumulative nitrogen leaching maximum** for any given year in Table 14.2;
 - (D) Whether further reductions are currently possible for the intensive farming *land^Δ* use based on available mitigation measures that have been tested and proven to be effective at farm scale or through farm system modelling, optimisation and analysis of marginal costs and benefits that determines the range of leaching reductions available existing technologies;

- (iv) The extent to which the non-compliance with the *cumulative nitrogen leaching maximum** specified in Table 14.2 is attributable to updates in versions of OVERSEER;
 - (v) The nature and characteristics of the *land*^Δ, including *land use capability class** and productive capability, having regard to physical characteristics of the soil including in terms of attenuation capacity, climatic conditions, and topography of the property;
 - (vi) The contribution of the progressive reduction in nutrient leaching and run-off, faecal contamination and sediment losses from the *land*^Δ, over time, to the improvement of *water*^Δ quality within that *Water Management Sub-zone** and need for such progressive reduction, by reference to the relevant Schedule F targets;
 - (vii) Consent duration, ensuring that the duration is limited to a period not exceeding ten years, and a shorter duration where continued high cumulative nitrogen leaching from the *land*^Δ is planned without progressive reduction through the use of *best management practice**;
 - (viii) The potential effects of nutrient leaching and run-off, faecal contamination and sediment losses from the *land*^Δ on surface *water*^Δ and groundwater receiving environments, recognising the state, sensitivity and absorptive capacity of the receiving environment and of downstream lakes and wetlands;
 - (ix) The surface *water*^Δ management values for the relevant *Water Management Sub-zone**, including the values described in Schedule B and in any relevant treaty settlement documents;
 - (x) The strategy for surface *water*^Δ quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6;
 - (xi) The operational crop rotation requirements of *commercial vegetable growing** necessary to avoid soil-borne diseases and maintain crop health;
 - (xii) The importance of maintaining food security for New Zealanders to support community well-being;
 - (xiii) The potential benefits of off-site mitigation measures to address adverse effect of nutrient leaching and run-off, faecal contamination and sediment losses on *water*^Δ quality in the *surface water management sub-zone**;
- (g) When determining whether to enable the existing intensive farming *land*^Δ use to continue under (d) (ii), have regard to:
- i. measures implemented in accordance with a *nutrient management plan** to ensure that nutrient leaching and run-off, faecal contamination and sediment loss from the *land*^Δ do not increase over the duration of the *resource consent*^Δ;

- ii. ~~good management practices* and additional measures that are proposed to avoid, remedy or mitigate nutrient leaching and run-off, faecal contamination and sediment losses from the land^Δ;~~
- iii. ~~the measures or arrangements necessary, including the nature, timing and sequencing, measurability and enforceability of any steps required, to ensure proposed to transition out of the intensive farming use of the land^Δ use by the date of expiry of the resource consent^Δ and to prevent resumption of that intensive farming activity on the land^Δ.~~

14.1 Rules – Agricultural Activities

Table 14.1 sets out the target *Water Management Sub-zones** where management of existing intensive farming *land^Δ* use activities must be specifically controlled.

Table 14.1 Targeted *Water Management Sub-zones**

Catchment	<i>Water Management Sub-zone*</i>	Date the Rules of the Plan have legal effect ³ in relation to Rule 14-1
Mangapapa	Mangapapa Mana_9b	1 July 2014
Waikawa	Waikawa West_9a Manakau West_9b	1 July 2014
Other south-west catchments (Papaitonga)	Lake Papaitonga West_8	1 July 2014
Mangatainoka	Upper Mangatainoka Mana_8a Middle Mangatainoka Mana_8b Lower Mangatainoka Mana_8c Makakahi Mana_8d	1 July 2015
Other coastal lakes	Northern Manawatu Lakes West_6	1 July 2015

³ The Plan has legal effect in the case of *dairy farming** from 24 August 2010 and for *commercial vegetable growing*, cropping** and *intensive sheep and beef** it has legal effect from 9 May 2013.

Catchment	Water Management Sub-zone*	Date the Rules of the Plan have effect ³ in relation to Rule 14-1 legal
	Kaitoke Lakes West_4 Southern Wanganui Lakes West _5	
Coastal Rangitikei	Coastal Rangitikei Rang_4	1 July 2015
Lake Horowhenua	Lake Horowhena Hoki_1a Hokio Hoki_1b	1 July 2015
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 2016
Manawatu above gorge	Hopelands-Tiraumea Mana_6 Upper Gorge Mana_9a Mangaatua Mana_9c	1 July 2016

Table 14.2 sets out the cumulative nitrogen leaching maximum* for the land^ used for intensive farming land^ use activities within each specified land use capability class*. The cumulative nitrogen leaching maximum* values in Table 14.2 were derived using Overseer® 6.2.3 [version to be inserted].

Table 14.2 Cumulative nitrogen leaching maximum* by Land Use Capability Class*

Period (from the year that the rule has legal effect*)	LUC* I	LUC* II	LUC* III	LUC* IV	LUC* V	LUC* VI	LUC* VII	LUC* VIII
Year 1	51 ~~30~~	45 ~~27~~	40 ~~24~~	29 ~~18~~	25 ~~16~~	~~24~~ <u>15</u>	~~11~~ <u>8</u>	3 ~~2~~
Year 5	46 ~~27~~	42 ~~25~~	35 ~~21~~	~~26~~ <u>16</u>	20 ~~13~~	16 ~~10~~	8 ~~6~~	3 ~~2~~
Year 10	44 ~~26~~	37 ~~22~~	32 ~~19~~	23 ~~14~~	20 ~~13~~	16 ~~10~~	8 ~~6~~	3 ~~2~~
Year 20 <u>applies to new intensive farming land^ use activities only</u>	43 ~~25~~	35 ~~21~~	30 ~~18~~	21 ~~13~~	19 ~~12~~	16 ~~10~~	8 ~~6~~	3 ~~2~~

Note: The two entries highlighted in yellow are incorrect. The underlining and strike-through has been incorrectly applied. The LUC*IV Year 5 entry should read '26 ~~16~~' and the LUC*VI Year 1 entry should read '24 ~~15~~'. These errors will be corrected by Clause 16 amendment as soon as practicable and before the close of the appeal period'

Note M Scott 28 March 2024: Table 14.2 to be updated with recalibrated CNLMs using most recent version of OVERSEER at point of decision.

Note: The blue highlighted inserted text reflects the Panel's report to Horizons Regional Council that the Year 20 Cumulative nitrogen leaching maximum should be deleted insofar as it applies to **existing** intensive farming land uses. The Panel's report did not recommend any change to the Year 20 Cumulative nitrogen leaching maximum insofar as it relates to **new** intensive farming land uses activities only. This error will be amended using Clause 16 Schedule 1 RMA as soon as practicable.

Table 14.2A. 75th Percentile leaching rates by targeted Water Management Sub-zone*

Catchment	Water Management Sub-zone*	Maximum nitrogen leaching loss rate (kg N/ha/year)
Coastal Rangitikei	Rang 4	32
West Coast lakes, Lake Horowhenua, other coastal lakes	Hoki 1a, 1b; West 4; West 5; West 6; West 8; West 9a, 9b	35
Upper Manawatu and Weber Tamaki (upstream of Tamaki confluence)	Mana 1a, 1b, 1c; Mana 2a, 2b	45
Other Upper Manawatu (Upper Tamaki, Tamaki Hopelands, Upper Kumeti, Hopelands Tiraumea, Upper Gorge)	Mana 3; Mana 4; Mana 5a, 5b, 5c, 5d, 5e; Mana 6; Mana 9a, 9b, 9c	45
Mangatainoka	Mana 8a, 8b, 8c, 8d	49

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-1 Existing intensive farming land[^] use activities	The use of land[^] pursuant to s9(2) RMA for any of the following types of intensive farming: (i) <i>dairy farming</i>* (ii) <i>commercial vegetable growing</i>* (iii) <i>cropping</i>* (iv) <i>intensive sheep and beef farming</i>* that was existing in the <i>Water Management Sub-zones</i>* listed in and from the dates specified in Table 14.1 and any of the following <i>discharges</i>[^] pursuant to ss15(1) or 15(2A) RMA associated with that intensive farming: (a) the <i>discharge</i>[^] of <i>fertiliser</i>* onto or into land[^] (b) the <i>discharge</i>[^] of <i>contaminants</i>[^] onto or into land[^] from (i) the preparation, storage, use or transportation of stock feed on <i>production land</i>[^] (ii) the use of a <i>feedpad</i>* (c) the <i>discharge</i>[^] of <i>grade Aa biosolids</i>* or <i>compost</i>* onto or into <i>production land</i>[^] (d) the <i>discharge</i>[^] of <i>poultry farm litter</i>* onto or into <i>production land</i>[^] (e) the <i>discharge</i>[^] of <i>farm animal effluent</i>* onto or into <i>production</i>	Controlled	(a) ~~The existing intensive farming land[^] use was not granted a resource consent under Rule 14.1 or Rule 14.2 of this Plan prior to 22 July 2019.~~ (a) A <i>nutrient management plan</i>* must be prepared for the land[^], and provided ~~annually~~ to the Regional Council ~~with the application for resource consent[^] and thereafter as required by any condition of resource consent[^].~~ (b) The activity must be undertaken in accordance with the <i>nutrient management plan</i>* prepared under ~~(a) to (a)~~. (c) The <i>nutrient management plan</i>* prepared under ~~(a) to (a)~~ must demonstrate that ~~the nitrogen leaching loss from the activity will not exceed the nitrogen leaching loss from the activity will:~~ (i) ~~the nitrogen leaching loss from the activity will not exceed the cumulative nitrogen leaching maximum* specified in Table 14.2 where the nutrient management plan* was prepared and nitrogen leaching loss was estimated using the same version of OVERSEER as used to produce the cumulative nitrogen leaching maximums* in Table 14.2; or~~ (ii) ~~where the nutrient management plan was prepared and nitrogen leaching loss was estimated using a different version of OVERSEER as used to produce the cumulative nitrogen leaching maximums* in Table 14.2, the equivalent maximums for that different version of OVERSEER produced using the reference file system, the nitrogen leaching loss from the~~	Control is reserved over: (a) the ~~contents~~, implementation and ~~review~~ of the <i>nutrient management plan</i>* ~~for the land[^]~~ (b) ~~compliance with the cumulative nitrogen leaching maximum* specified in Table 14.2 or the equivalent maximums, produced using the reference file system, where a different version of OVERSEER than that used to cumulative nitrogen leaching maximums* in Table 14.2 has been used compliance with the cumulative nitrogen leaching maximum* specified in Table 14.2 the nitrogen leaching loss from the land[^] and the good management practices* and best management practices* (and additional measures where necessary) to limit nitrogen leaching loss from the land[^] to the rate specified in condition (d) and to avoid, remedy or mitigate nutrient leaching and run off, faecal contamination and sediment losses from the land[^]~~ (c) the matters of control in Rule 14-11 (d) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser</i>* drift or effluent drift (e) provision of information including the

			activity will not exceed a rate that is the lesser of: a. 80% of the nitrogen leaching baseline* of the land^a (which must be achieved by 31 December 2022) and b. the nitrogen leaching loss specified for the relevant Surface Water Management Sub-zone* in Table 14.2A; or (iii) for commercial vegetable growing* the growing area does not exceed the baseline growing area* and, within 3 years of lodgment of the application, the activity will achieve a	nutrient management plan* (f) duration of consent (g) review of consent conditions^a (h) compliance monitoring and reporting (i) the matters in Policies 14-5, 14-6 and 14-9.
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Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	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 intensive farming land[^] use is located partly on land within one or more of the water management sub-zones* listed in Table 14.1 and partly on other land, this rule only applies: (a) if at least 20% of the existing intensive farming land[^] use is located on land within the listed water management sub-zones*; and (b) to the portion of the existing intensive farming land[^] use that is located within the listed water management sub-zones*.		minimum reduction in cumulative nitrogen leaching loss from the land[^] of 25% relative to the baseline growing period*. (iv) provided that, under (d) (ii) and (iii) above, the application for consent is lodged no later than 23 December 2022. (e) 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. (f) Rivers[^] that are permanently flowing or have an active bed* width greater than 1 m, that are crossed by cattle must be bridged or culverted, and the cattle must cross via that bridge or culvert, and run-off originating from the carriageway of the bridge or culvert must be discharged[^] onto or into land[^]. (g) The discharge[^] of fertiliser* onto or into land[^] and any ancillary discharge[^] of contaminants[^] into air must comply with the conditions[^] of Rule 14-5. (h) 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*	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
			and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-6. (i) The <i>discharge</i>[^] of <i>grade Aa biosolids</i>[*] or <i>compost</i>[*] onto or into <i>production land</i>[^] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-7. (ii) The <i>discharge</i>[^] of <i>poultry farm litter</i>[*] onto or into <i>production land</i>[^] and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^] of Rule 14-9. (k) The <i>discharge</i>[^] of <i>farm animal effluent</i>[*] onto or into <i>production land</i>[^] including: (i) effluent from dairy sheds and <i>feedpads</i>[*] (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air must comply with the <i>conditions</i>[^], standards and terms of Rule 14-11.	

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
14-2 Existing intensive farming land [^] use activities not complying with	The use of <i>land</i> [^] pursuant to s9(2) RMA for any of the following intensive farming:	Restricted Discretionary	(a) ~~A <i>nutrient management plan</i>[*] must be prepared for the land[^], and provided annually to the Regional Council. The activity must comply with~~	Discretion is restricted to: (a) ~~the contents, implementation and review of the preparation of and~~

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
any of the conditions, standards and terms (a), (b) and (d) to (i), (e) to (k) of Rule 14-1	(i) dairy farming* (ii) commercial vegetable growing* (iii) cropping* (iv) intensive sheep and beef farming* that was existing in the Water Management Sub-zones* listed in and from the dates specified in Table 14.1, and any of the following discharges[^] pursuant to ss15(1) or 15(2A) RMA associated with intensive farming, that do not comply with one or more of the conditions[^], standards and terms of Rule 14-1 (except for (a), (b) or (c)): (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 biosolids* 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		the requirements specified in conditions, standards and terms (a) to (d) of Rule 14-1. (b) The activity must be undertaken in accordance with the nutrient management plan* prepared under (a). The activity must comply with the requirements specified in conditions, standards and terms (e) to (k) of Rule 14-1, except to the extent that consent is sought under Rule 14-2 to not comply with them. (c) The nutrient management plan* prepared under (a) must demonstrate that the nitrogen leaching loss from the activity will not exceed the cumulative nitrogen leaching maximum* for any year specified in Table 14.2.	~~compliance with a nutrient management plan*~~ for the land[^] (b) the extent of non-compliance with the cumulative nitrogen leaching maximum* specified in Table 14.2 (b) the extent of non-compliance with the cumulative nitrogen leaching maximum* specified in Table 14.2 or the extent of non-compliance with the equivalent maximums, produced using the reference file system, where a different version of OVERSEER than that used to cumulative nitrogen leaching maximums* in Table 14.2 has been used (c) (e) measures the nitrogen leaching loss from the land[^] the measures including good management practices* and best management practices* (and additional measures where necessary) to limit nitrogen leaching loss from the land[^] to the rate specified in condition (d) and to avoid, remedy or mitigate nutrient leaching and run-off, faecal contamination and sediment losses from the land[^]

				(d) measures to exclude cattle from <i>wetlands</i>[^] and <i>lakes</i>[^] that are a <i>rare habitat</i>[*] or <i>threatened habitat</i>[*], and <i>rivers</i>[^] that are permanently flowing or have an <i>active bed</i>[*] width greater than 1 m (e) the bridging or culverting of <i>rivers</i>[^] that are permanently flowing or have an <i>active bed</i>[*] width greater than 1 m that are crossed by cattle
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Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	<i>land</i>[^] (or upon expiry or surrender of any existing consent for that <i>discharge</i>[^]) including: (i) effluent from dairy sheds and <i>feedpads</i>[*] (ii) effluent received from piggeries (iii) sludge from farm effluent ponds (iv) poultry farm effluent and any ancillary <i>discharge</i>[^] of <i>contaminants</i>[^] into air pursuant to ss15(1) or 15(2A) RMA.			(f) the matters referred to in the <i>conditions</i>[^] of Rules 14-5, 14-6, 14-7, and 14-9 (g) the matters referred to in the <i>conditions</i>[^] of Rule 14-11 and the matters of control in Rule 14-11 (h) avoiding, remedying or mitigating the effects of odour, dust, <i>fertiliser</i>[*] drift or effluent drift (i) provision of information including the annual <i>nutrient management plan</i>[*] (j) duration of consent (k) review of consent <i>conditions</i>[^] (l) compliance monitoring (m) the matters in ~~Policy~~ Policies 14-5, 14-6 and 14-9.
Rule 14-2A Existing intensive farming <i>land</i>[^] use activities not complying with conditions, standards, or terms (a) to (d)-(e) of Rule 14-1 or condition (a) of Rule 14-2.	The use of <i>land</i>[^] pursuant to s9(2) RMA for any of the following intensive farming: (i) <i>dairy farming</i>[*] (ii) <i>commercial vegetable growing</i>[*] (iii) <i>cropping</i>[*] (iv) <i>intensive sheep and beef farming</i>[*] that was existing in the <i>Water Management Sub-zones</i>[*] listed in and from the dates specified in Table 14.1, and any of the following <i>discharges</i>[^]	Discretionary		

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	pursuant to ss15(1) or 15(2A) RMA associated with intensive farming, that do not comply with conditions, standards and term (a) to (d) of Rule 14-1-14-1 or condition (a) of one or more of the conditions, standards and terms of Rule 14-2.: ~~(f) the discharge^Δ of fertiliser* onto or into land^Δ~~ ~~(g) the discharge^Δ of contaminants^Δ onto or into land^Δ from~~ ~~(i) the preparation, storage, use or transportation of stock feed on production land^Δ~~ ~~(ii) the use of a feedpad*~~ ~~(h) the discharge^Δ of grade Aa biosolids* or compost* onto or into production land^Δ~~ ~~(i) the discharge^Δ of poultry farm litter* onto or into production land^Δ~~ ~~(j) the discharge^Δ of farm animal effluent* onto or into production land^Δ for upon expiry or surrender of any existing consent for that discharge^Δ) including:~~ ~~(i) effluent from dairy sheds and feedpads*~~ ~~(ii) effluent received from piggeries~~			

Rule	Activity	Classification	Conditions/Standards/Terms	Control/Discretion Non-Notification
	~~(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~~			

...

Note M Scott 28 March 2024: My recommendation is that the reference file system approach also apply to new IFLU, because the same issues with OVERSEER upgrades vs Table 14.2 apply. These are shown in the amendments to Chapter 14 in App 1 Chapter 14 – operative version.

Rule Guide:

The location of archaeological sites when defined by a single co-ordinate is unlikely to define the true extent of subsurface archaeological evidence. The 50 metre rule should apply from the outer perimeter of the site.

Some activities in *rare habitats**, *threatened habitats** and *at-risk habitats** are regulated by Rules 13-8 and 13-9. 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 14-30.
- (b) ~~**Activities that do not comply** – Except for Rule 14-3, 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 14-20.

Glossary

A term or expression that is defined in this glossary is marked with the symbol * when used in the Plan.

A term or expression that is defined in the Resource Management Act 1991 (RMA) and used in the Plan, but which is not included in this glossary, has the same meaning as in the RMA. Definitions provided in the RMA are not repeated in this glossary. A term or expression that is defined in the RMA is marked with the symbol ^ when used in the objectives, policies or rules of the Plan, this glossary and the schedules to the Plan, other than Schedules F, G and I.

When:

- * is not used to identify a term anywhere in the Plan, or
- ^ is not used to identify a term in the objectives, policies or rules of the Plan, this glossary or the schedules to the Plan the term has its ordinary meaning.

New Definition:

Baseline Commercial Growing Area means the aggregated area of *land*[^] utilised for commercial vegetable production in the 2012/2013 growing season and includes all *land*[^] under the control (owned or leased) of a single grower or enterprise.

New Definition:

Baseline Growing Period means the 2012/2013 growing season.

New Definition:

Crop Rotation is the systematic planting of different crops in sequence over multiple years within the same growing space, or across changing and parcels, and often includes a pasture phase. This process helps maintain nutrients in the soil, reduce soil erosion, and prevents plant diseases and pests.

New Definition:

Enterprise means one or more parcels of *land*^A held in single or multiple ownership to support the principle *land*^A use, or *land*^A on which the *land*^A use is reliant, which constitutes a single operating unit for the purposes of management.

New Definition:

Nitrogen Baseline means the discharge of nitrogen below the root zone, as modelled using a recognised nutrient management model, for the period 1 July 2012 to 30 June 2013. If an updated version of the nutrient management model is to be issued, the most recent version is to be used to recalculate the nitrogen baseline using the same nitrogen related farm input data as used to calculate Table 14.2A.

New Definition:

75th Percentile Nitrogen Leaching Loss means the 75th percentile value (units of kg N/ha/year) of all of the nitrogen baseline* values for dairy farming *land*^A use activities in the Surface Water Management Zone* as set out in Table 14.2A.

New Definition:

Good management practices refers to ~~evolving practical~~ practicable measures and methods, including those established in industry-based standards and guidance documents, which are tailored for use ~~used~~ at a farm ~~sector or community~~ level to minimise the effects of discharges to *land*^A and *water*^A.

Commented [MW1]: Mike: Does this need to change?

New Definition:

Best Management Practices means measures, additional to *good management practices** that are tailored for a farming or growing system to minimise nitrogen leaching loss from the land⁴ to the maximum practicable extent.

Amendment to Existing Definition:

Nutrient Management Plan means a plan prepared annually, either:

- (a) in accordance with the Code of Practice for Nutrient Management (NZ Fertiliser Manufacturers' Research Association 2013 2007) which records ~~(including copies of the OVERSEER input and output files of a recognised nutrient management model used to prepare the plan)~~ and takes into account all sources of nutrients, sediment and pathogens for intensive farming ~~(and includes copies of the OVERSEER input and output files of a recognised nutrient management model used to prepare the plan)~~ and identifies all current and relevant nutrient management practices and mitigations and which is prepared by a person who has ~~both a Certificate of Completion in Sustainable Nutrient Management in New Zealand and a Certificate of Completion in Advanced Sustainable Nutrient Management from Massey University; or~~
- (b) as a component of a certified freshwater farm plan⁴ prepared for the purpose of Part 9A of the Resource Management Act 1991 which records and takes into account all sources of nutrients for intensive farming (and includes copies of the input and output files of a recognised nutrient management model used to prepare the plan) and identifies all current and relevant nutrient management practices and mitigations and addresses potential sediment loss and faecal contamination.

Appendix 2

s 42A Report and PC2 Decisions Report - reference file system

BEFORE THE HEARINGS PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of proposed Plan Change 2 to the One Plan

AND

IN THE MATTER of the submissions and further submissions
set out in the s 42A Officer Report

**SECTION 42A TECHNICAL REPORT OF DAVID JOHN HORNE
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is not only fit for purpose but it is the most practicable tool to use to assess nutrient losses from agricultural systems in the region and help farmers achieve a consent.

H. MANAGING EFFECTS OF VERSION CHANGES TO OVERSEER®

44. I have made much of the fact that OVERSEER® will develop and improve in the future. This will involve nitrogen loss estimates changing in the future as a result of further OVERSEER® version changes.
45. I am of the opinion that the incorporation of new science, including new management practices and mitigation measures, is a virtue of OVERSEER®.
46. However, I also recognise regular updates and changes to OVERSEER® present a challenge to the administration of the policies and rules within regional plans.
47. Version changes in OVERSEER® result in estimates of nutrient losses below the root zone changing. The changes can range from significant to minor, to negligible. The extent of change will depend on what part of the OVERSEER® model is changed. For example, the version change between 5 and 6 was very significant and, in some cases resulted in very large changes in N leaching estimates, particularly for coarse textured soils. In simple terms, this was mostly the result of a complete overhaul of the way that drainage was simulated in the model and its impact on N leaching. Some version changes are minor and may have no, or very small, effects on N leaching predictions.
48. As explained in the s42A technical report of my colleague Dr Hanly, changes in OVERSEER® estimates will not result in changes to the real or actual nutrient losses from farms, or the attenuation factors that account for the denitrification that occurs between the farm and the receiving water body, or the N load received in the rivers. These are real processes which we attempt to understand and manage by building models, including those that we program into computers. As stated above, OVERSEER® is one such model which is constantly being improved to better capture and represent our continually improving knowledge of these 'real' processes. In other words, models change to better simulate the processes, but the models do not directly impact on them.
49. In my opinion a mechanism to manage the implications to Table 14.2 of version changes to OVERSEER® and farm management needs to be identified and formalised as part of

the One Plan framework. Freeman et al (2016) discuss a range of options for responding to OVERSEER® version changes. The most relevant of these approaches to the One Plan can be summarised as:²

- (a) establishing the maximum N leaching value for a representative series of farms during a specified (“baseline”) period using reference input files for these farms and for that period. These references file can be used to recalculate maximum N leaching values using any new or modified version of OVERSEER®;
- (b) defining a set of specified GMPs/BMPs/innovations for the current farm system, which are re-modelled with any new version of OVERSEER® (it is these GMPs/BMPs/Innovations that are the subject of compliance).

50. Both of these approaches are required given the proposed consenting pathways. In principle, the values in Table 14.2 need to be updated with new versions of OVERSEER® so that farmers can apply for new consents. This updating can be achieved via the process I have outlined in (a) above.
51. Initiating a Plan Change under the RMA every time OVERSEER® is modified is obviously onerous and unworkable. Therefore, a process to manage changes to OVERSEER should be identified and if possible, built into PC2. This should enable would facilitate the routine recalibration of Table 14.2 via some type of formal and transparent process.
52. Table 14.2 would not necessarily require updating every time that Overseer is modified. Some modifications to the software result in very small changes to N leaching values. I suggest that Table 14.2 should be recalibrated whenever the cumulative modifications to OVERSEER® result in an average change in N leaching across the reference files of more than 3 kg N ha⁻¹ yr⁻¹.
53. The recalibration of Table 14.2 could be a relatively straightforward and routine exercise. A series of reference files which represent typical agricultural enterprises across the region could be compiled. These files would represent the range of soil types, climates and farm systems found in the region and would include the detailed OVERSEER® model inputs. Table 14.2 could then be recalibrated by looking at the shift

² Freeman acknowledged that that the consequence of a version change may be different for a rule depending on the type of threshold within the plan framework.

or difference between nitrogen leaching values for the reference files as determined by the current and future updates of OVERSEER®.

54. As OVERSEER® is currently configured, version changes would essentially process the reference files automatically i.e. the original reference file is incorporated into the new/modified version of the on-line model to create an updated file. A new CNLM would then be set by the nitrogen losses calculated by the new version of OVERSEER® for the reference input data file. The reference files could then be included as a reference point in the One Plan, with a description of the reference file CNLM method referenced as appropriate.
55. The method described above is essentially the process used to derive the values for the recalibrated Table 14.2. This approach has been adopted in other instances in the region, and in other regions such as the Bay of Plenty.
56. Whether or not the above approach can be incorporated into the One Plan as part of PC2 is a matter outside my expertise. However, if the reference files could be included as a schedule, with a trigger average change in N leaching across the reference files of more than 3 kg N ha⁻¹ yr⁻¹ to inform Horizons and other users as to when recalibration was to occur, then there may be sufficient certainty for the policy/rule framework. This is ultimately a matter for the planners, although there may be merit in further technical expert conferencing on the merits of this recalibration approach.
57. It is important to note that for farmers with a consent, the effectiveness of their actions and the attendant improvements in water quality will depend on them implementing the GMPs/BMPs/Farm system change & Innovations specified in their NMP. In other words, these NMP should be the focus of compliance monitoring rather than attempts to reconcile the changes in predictions of N leaching that result from version changes to OVERSEER®. In other words, changes in the version of OVERSEER® has less implication for consented farmers: they need to focus on adopting the GMPs/BMPs/Innovations that they committed to.
58. In summary, any inconveniences in accommodating version changes to OVERSEER® are far outweighed by the value of having enhanced functionality and performance in terms of both reduced uncertainty in estimates of N leaching and the inclusion of new mitigation options. Given that that version changes are anticipated, it will be possible

to manage the implications of each new version release of OVERSEER®. The only issue left outstanding is how to incorporate that approach into the One Plan framework.

I. ON FARM MANAGEMENT PRACTICES

59. The RPS, in particular Policy 5-8, anticipates that ‘most’ farms would meet Table 14-2 with Good Management Practice (GMP) as the term was understood at the time. In other words, at the inception of Table 14.2, it was anticipated that the majority of farmers would need to adopt GMPs in order to comply with the CNLMs in a stepped down manner over the period of 20 years given in Table 14.2.
60. There is no nationally consistent definition of GMP. Furthermore, GMP and BMP are not applied in a uniform way as it is widely recognised that there is no such thing as a ‘one size fit all’ when it comes to identifying the practices required to reduce nutrient loss from a wide range of unique farms.
61. There is also presently no definition of GMP or BMP in the One Plan. However, at the time the One Plan was introduced, there was an understanding of the farm practices which farmers and growers may have elected to adopt to manage N loss. In particular, Dr Ross Monaghan outlined in his evidence (Appendix A) a wide ranging suite of practices that farmers might need to adopt to help them comply with their CNLM.³ Dr Monaghan called these practices ‘Good Management Practices’, stating that he did not care for the term ‘Best Management Practices’. Therefore, GMP as referred to, and relied on in the One Plan, reflected a broad manner of practices, some of which were fairly onerous to implement and capable of delivering very substantial reductions in N loss.
62. Dr Monaghan’s list of GMPs are attached as **Appendix A** to the Farming and Growing Management Practices Joint Witness Statement (“JWS”) dated 12 August 2020.
63. At that time, it was envisaged that farmers with leaching losses close to the CNLMs would be required to make relatively small changes to their farm system, while farmers who were well in excess of their CNLM would be required to make more substantial changes so as to achieve a greater reduction in N leaching from their farm. It was also understood that there would be a group of farmers who for one reason or another (e.g.

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TECHNICAL – ON-FARM MANAGEMENT PRACTICES

7 OCTOBER 2020

modelled costs associated with the reductions I anticipate may come from those practices being adopted on farm.

46. Perhaps this brings us to the heart of what disagreement there may be between myself and DairyNZ/FFNZ. My range for reduction in N leaching may be aspirational but it considers the imperative to strive for greater reductions in N leaching from IFLUs. The fact of the matter is that the Horizons region has some of the worst water quality in the country. Having said this, I also appreciate that it is a major challenge to reduce N leaching on many dairy farms in the region, and that the farmers are the best people to select practices that are most appropriate for their individual farm. I have recommended that this tension might be resolved by proffering a list of practices for farmers to engage with and consider in good faith so as to achieve the best and most practicable outcomes for both the receiving aquatic environment and farming.
47. In the final analysis, it seems to me that PC2 is less about quibbles and fine distinctions about what is, and is not, best practice and more about 'how do we achieve best outcomes'.

F. SHEEP AND BEEF

48. I note that Dr Jane Crystal agrees that, should it be required, a reduction in N leaching in the 10-20% range should be achievable on irrigated sheep and beef farms. Her scenario testing identified a 15% reduction in N leaching on a case study farm.

G. OVERSEER REFERENCE FILE UPDATE

49. There is a level of consensus amongst the farming experts that there needs to be recognition of the OVERSEER version updates when considering PC2. However, it is important to remember when we consider the effects of the OVERSEER updates that we are referring to changes (often increases) in the predictions or estimates of nitrogen leaching from the root zone and not any changes to the actual or real losses of nitrogen to the environment. That is, those increases in estimated N losses occur without anything physically changing within an IFLU. To put it another way, the same amount of nitrogen is leaving the root zone in real terms, it is just that OVERSEER has improved in its ability to estimate what that amount is. I intend to table a diagram that illustrates and explains these points for the Hearing Panel at the hearing.

50. I have had opportunity to review the draft supplementary section 42A report of Ms Foster, where she sets out her method to enable future applicants and decision-makers to determine parity of N leaching estimates with the Table 14.2 CNLM values. This process involves a number of steps including use of a 'reference file' methodology to determine any change or difference between nitrogen leaching values for the reference files as determined by updates of OVERSEER. This information, which would be made available to any person through the Horizons website, would inform an assessment of the extent to which there have been increases in N leaching estimates attributable to a version change. That information could be relied on by a farmer in making a consent application where there are exceedances of Table 14.2. I understand from Ms Foster's report that there are policies proposed as part of PC2 which would enable this to be considered by Horizons when deciding whether to grant a consent for the CNLM exceedance.
51. As I discuss in paragraph 54 of my original section 42A report, version changes would essentially process the reference files automatically once those files are set up in OVERSEER. There is already a reference file constructed by Dr Hanly and myself for Table 14.2 (see paragraphs 51-56 of my original section 42A report). This would be the main reference file used to determine what the updated leaching values are as a consequence of any OVERSEER change, and in turn the extent to which any exceedance of the CNLM in Table 14.2 is attributable to that version change.
52. This reference file approach could also be supported by a suite of farm systems, set up as files in the online OVERSEER describing typical IFLU activities in the Horizons region. These other farm systems would be for the purpose of testing the sensitivity of any one IFLU to a change in OVERSEER (i.e. they would capture more specific changes made to OVERSEER that might not be reflected in the main reference file). For example a small change in versions may be more related to one type of farm system (e.g. sheep performance) or changes may impact N losses from type of practice (irrigation) or one soil type more than another. The purpose of this library of reference files would be to develop a comprehensive picture of how changes to OVERSEER impact on the ability of farmers to obtain a consent. I do not consider the establishment of these reference files to be an overly complicated task, and it would be able to be done relatively quickly.

53. There may still be a threshold/trigger where the average change in N leaching caused by an OVERSEER version update is so significant that Table 14.2 becomes well out of step with the estimated leaching values arising out of the recent OVERSEER version. At that point Horizons may wish to consider changing Table 14.2. However, for now, I am comfortable that the impact of any OVERSEER version change can be assessed in a transparent manner within the consenting process via this method. Future version changes may not be a major issue as, hopefully, changes in OVERSEER will not have a large impact on the CNLM within Table 14.2 over the next few years, or at least in the period of time Ms Foster is proposing (2 years) for farmers to apply for resource consent. I also note that, with the introduction of alternative consenting pathways, there are likely to be less farmers seeking to rely on Table 14.2. I defer to the section 42A report of Ms Foster on the planning matters associated with this approach.
54. I have given further consideration to ongoing compliance with N leaching values if consents are obtained under Table 14.2 (these issues do not arise where percentage changes are relied on under the alternative pathways). In that case, a condition could be imposed to enable any limit set by way of a consent condition to be revisited through the same reference file method I describe above. For example, the condition may refer to the consent holder having the opportunity to establish that a new version of OVERSEER released during the consent period has been the cause of any exceedance. I simply use this as an example of how the implications of OVERSEER updates could potentially be managed in the consent framework. I note that the 'Year end' facility in OVERSEER could be useful to this process.
55. One final point to note is that the CNLM in the recalibrated Table 14.2 are those in the table as notified in July 2019. There appears to be confusion in some submitter evidence as to which OVERSEER version the CNLM in Table 14.2 would be based on (see Dr Crystall's evidence, at paragraph 89, for example). The OVERSEER version released in mid-2020 (v 6.3.3) is not the version that the recalibrated table 14.2 values are (or will be) based on. The recalibrated values in Table 14.2 are explained in paragraph 17 of Dr Hanly's section 42A report. In Hanly (2020), Dr Hanley tested whether the recalibrated Table 14.2 values were impacted in a significant way by the OVERSEER version change to v 6.3.3. As set out in paragraph 79 of his section 42A report, the impact of that particular change was very small.

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**SUPPLEMENTARY SECTION 42A REPORT OF CHRISTINE FOSTER
ON BEHALF OF MANAWATŪ-WHANGANUI REGIONAL COUNCIL
RMA PLANNING MATTERS**

8 OCTOBER 2020

18. Peter Wilson (for Fish and Game) has suggested in paragraph 20 of his evidence that an advisory note should be inserted into Rule 14-2A referencing the 'nitrogen cap' introduced by NES-FM Regulation 33 and the non-complying activity status for exceedance of the 'nitrogen cap' introduced by Regulation 34). I have identified the information requirements of Regulation 36 to be an area of conflict in PC2 and I recommend that this be addressed in the NES-FM amendments. By not simply referencing the requirements but by inserting those requirements into PC2, my approach addresses Mr Wilson's concerns more directly. I recommend that this should occur as part of Horizons' separate NES-FM amendments (not as a recommendation on PC2 submissions – I do not expect the time frame for that change will be long).
19. As I note in Attachment 'S1', other changes to the One Plan will also be required (separately) to address other requirements of the NES-FM Regulations. I understand from Dr Peet that Horizons is working collectively with other regional councils and unitary authorities, Ministry for the Environment and Ministry for Primary Industries on the implementation of these Regulations. That includes further work to clarify definitions and interpretation, the approach to consenting pathways, compliance approaches and the mapping of the NES into existing plans. The work is underway. Central Government has already considered minor changes to the NES. Individual councils, including Horizons, are in the process of working out the implications of the regulations for consenting and compliance in the context of their plans. As the national work progresses, Horizons will advance its own work programme to embed the NES-FM requirements into the One Plan. The likely timeframe for this is the next 1-6 months.

F. OVERSEER UPDATES

20. In paragraph 14 (b) of Chapter 15.5 of my original section 42A report, I recommended that PC2 be amended by including a 'reference file' methodology for accommodating future Overseer^{FM} version changes. I suggested that this should be achieved by including a new Schedule to the One Plan, outlining the 'reference file' methodology. I have, together with Horizons staff and Associate Professor Horne, explored a number of alternative 'reference file' approaches attempted in other jurisdictions. My view is that it would be inappropriate to try to build into PC2 a mechanism by which the CNLM values in Table 14.2 are altered each time Overseer^{FM} is updated. That is because the basis for those future changes is unknown and cannot be predicted with certainty and

Horizons (and the One Plan) has no control over the rationale or extent of those changes. To allow the CNLM values in Table 14.2 to be continually altered on that basis would not provide the level of certainty necessary for a 'pass/fail' compliance threshold which is what the Table 14.2 CNLM values are when used for when determining consent status i.e. whether the IFLU qualifies as a controlled activity.

21. I understand that Overseer^{FM} is an online software application that automatically updates the files of registered users. When the update occurs, previous versions of the software are replaced and become unavailable. The risk is that future applicants for consent, under the One Plan rules, will have to rely on future versions of Overseer^{FM} that deliver completely different outputs compared with Table 14.2 (exactly the problem that PC2 seeks to address). What is necessary, in my opinion, is a method by which future applicants and decision-makers can determine parity of N leaching estimates with the Table 14.2 CNLM values. To achieve that, we need:

- (a) Clarity within PC2 of the Overseer^{FM} version used to establish the Table 14.2 CNLM values (this is achieved by inserting the text I have recommended in the preamble to Table 14.2);
- (b) A set of base files, set up as files in the online Overseer^{FM}, describing typical IFLU activities in the Horizons region and using Overseer Version 6.2.3 (represented by the dairy farming 'synthetic' farm case studies used by Dr Hanly and Associate Professor Horne on which the Table 14.2 values for each LUC class are based). This should be supplemented by additional base files representing other types of IFLU (e.g. CVG, arable farming) to provide a sensitivity test of the impact of future changes for those other IFLU types. That would ensure that any changes within Overseer that are applicable only for particular types of IFLU (e.g. for CVG) are accounted for;
- (c) The farm system features (i.e. the assumptions used in the Overseer^{FM} inputs) of these representative farm systems to be documented as 'reference files' – ideally, to be completely transparent, within a Schedule to the One Plan. For this purpose, the details of the assumptions underlying the synthetic case studies that informed the values in Table 14.2 are contained in the report *Sensitivity of values in Table 14.2 of the 'One plan' to a change in the version of OVERSEER® (Parts A and B) (Hanly, Hedley and Horne, Fertilizer and Lime*

Research Centre February 2018). That report could simply be inserted into a One Plan Schedule. In my view, the process associated with making that report an externally referenced document does not align well with where we are in the process of PC2. The assumptions for the other IFLU base files (which I discuss below) would need to also be inserted;

- (d) A policy allowing consideration of the extent to which any exceedance of the Table 14.2 CNLM limits is due to Overseer^{FM} version changes (this is already provided for in the amendments proposed by PC2 to Policy 14-6 (e) (ii) (now numbered (e) (iv) in Attachment P to my original section 42A report);
 - (e) Horizons to hold the licence for the Overseer^{FM} files for these representative farm systems and to make available to any person, through its website, the Overseer^{FM} outputs at any point in time (I note that PC2 Method 5-13 already addresses this).
22. This combination of information will enable an applicant to assess (and Horizons to verify) whether, relative to the 2020 Table 14.2 CNLM values, there have been any increases in N leaching estimates in Overseer^{FM} attributable to changes internal to the Overseer^{FM} software that are not related to changes in on-farm management practices.
23. I would envisage that this combination of information would assist Horizons, IFLU consent holders and IFLU applicants in the following ways:
- (a) Horizons staff would have available an accurate indicator of whether the assumptions driving Overseer^{FM} are 'shifting' the way in which N leaching is estimated for the IFLU activities that require consents;
 - (b) A consent holder that has a consent that is based on or which specifies a maximum N leaching rate will be able to identify whether (and how much of) any difference in N leaching modelled using the future version of Overseer^{FM} can be attributed to version changes since 2020 and how much is attributable to on-farm practice changes;
 - (c) An applicant for IFLU consent applying for discretionary activity consent to exceed any of the PC2 controlled activity thresholds will be able to demonstrate how much of that exceedance is attributable to Overseer^{FM} version changes

relative to Table 14.2; The basis for determining the relative difference attributable to Overseer^{FM} version changes will be transparent and contestible in the context of an individual application or consent.

24. There is a risk that future Overseer^{FM} version changes may mean that an IFLU activity that has N leaching estimated to be lower than but close to the Table 14.2 CNLMs, based on version 6.2.3 (the Table 14.2 basis), could estimate the N leaching rate as being higher than the Table 14.2 CNLM value (even though exactly the same farm system would be estimated to comply, based on version 6.2.3). That would unnecessarily shift a potentially compliant IFLU activity into being a non-compliant IFLU activity and require the more costly discretionary activity consent pathway. However, the risk and consequence of this difficulty is moderated by the availability of the alternative controlled activity pathways that are not tied to Table 14.2. It is also moderated by the requirement I propose that, to qualify for a controlled activity consent pathway, applications must be lodged within two years. No-one knows with certainty how many version changes there might be within two years or the impact of those. But, the shorter the time period, the lower the chance of significant individual or cumulative version change impact. Existing unconsented IFLU activities can moderate the difficulty themselves by not delaying lodgement of the necessary applications.
25. From my list of components necessary to provide this 'reference file' methodology, the only item not yet confirmed is the detail of the assumptions underlying the non-dairy representative base files Overseer^{FM} file. Associate Professor Horne has advised me that this can be done relatively quickly but they are not available to me at the time of writing this supplementary report.
26. Overseer^{FM} version changes also present challenges for consented IFLU activities, where their consents specify a maximum or target N leaching loss value. Actual N leaching, as estimated by future (changed) versions of Overseer^{FM} could create non-compliance even where the IFLU farm system is unchanged and complying fully in implementing all of the mitigations and measures that were proposed in the application, and on which the consent and the N leaching limit is based. For these situations, future resource consents will need to specify how Overseer^{FM} version changes will be considered in monitoring and enforcing compliance.

27. This issue was addressed in the Foxton wastewater treatment plant discharge and IFLU consent, and the following condition was agreed between the parties and endorsed by the Environment Court:¹

13. In addition to General Condition 38, the Manawatu-Wanganui Regional Council may, under section 128 of the Resource Management Act 1991 initiate a review of these conditions for the duration of this consent:

- a. Every 5 years in the month of February, commencing in February 2023, for the purposes of assessing whether the effects assessment in the consenting decision remains valid, or whether new or amended conditions are required. This review will include a comparison of Nitrogen inputs over the review period (wastewater and fertiliser applied and stocking rate) and nitrogen losses (as assessed by OVERSEER®) with the assessment relied upon when granting this consent. Where the average nitrogen leaching loss exceeds the original predictions of the OVERSEER® 6.2.3 base file (HDC_BBirrigated_150823 - base file, 28/03/2017 1:15:14 p.m.) by more than 20% as calculated on a 5 year rolling average, then management options to reduce leaching losses back to the initially calculated leaching loss will be put in place within a time period agreed with the Regulatory Manager, and no later than the next review period.*

Unless:

- b. A new version of OVERSEER® has been released during the review period and the Consent Holder has demonstrated that the new version is the cause of the exceedance. The cause of the exceedance will be demonstrated by recalculating the nutrient losses of the original system using the benchmark reference input data file HDC_BBirrigated_150823 - base file, 28/03/2017 1:15:14 p.m. and providing a commentary as to what and why there are differences to the Regulatory Manager.*

14. In addition to General Condition 39, the review under Condition 13 may result in any of the following outcomes to ensure that adverse effects are appropriately mitigated:

- a. The deletion or amendment of any conditions of the Resource Consents; and*
b. The addition of new conditions requiring the Consent Holder to adopt the best practicable option to remove or reduce any more than minor adverse effects on the environment.

28. I do not consider anything along these lines needs to be inserted into PC2. Rather, this will be a matter for implementation.

¹ Horowhenua District Council v Manawatu-Wanganui Regional Council [2018] NZEnvC 163

Recommendation of Independent Hearing Panel

PLAN CHANGE 2

ONE PLAN – EXISTING INTENSIVE FARMING LAND USES

**Recommendation Report of the Independent Hearing Panel
appointed by the Manawātū-Whanganui Regional Council
pursuant to section 34A of the Resource Management Act 1991**

March 2021

Means of Maintaining Currency

Issue identification and evidence

- 3.225 One of the concerns discussed at the hearing was that if the CNLMs in the recalibrated Table 14.2 are now fixed permanently in place as version 6.2.3, the same situation that led to PC2 being promulgated could recur with future changes to Overseer® N leaching estimates. This could lead to similar problems with Table 14.2 as those that led to PC2, which would be neither efficient nor effective.
- 3.226 To overcome this, Ms Foster recommended we include a method enabling a 'reference file' system to be established by the Council. She based this on advice from Dr Horne.²²¹ In simple terms, what the reference file system would do, based on different land uses and LUCs, is allow the Council to update leaching loss estimates following any significant updates in the Overseer® model. The relative leaching losses would stay the same; all that would change are the nitrogen leaching maximums in response to updated versions of Overseer® (and these could go either up or down), which will be made available to plan users by Horizons via its website.
- 3.227 In her supplementary s42A report, Ms Foster²²² listed five key components of her proposed reference file system. In summary, they were as follows:
- a. providing clarity within PC2 that Overseer® version 6.2.3 was used to establish the Table 14.2 CNLM values (which we have achieved by inserting a preamble in Table 14.2);
 - b. the setting up of base files in the online Overseer®, describing typical IFLU activities in the MWRC region and using Overseer® version 6.2.3 for such activities including dairy farming on different LUCs, CVG and arable farming;
 - c. the farm system features (i.e., the assumptions used in the Overseer® inputs of these representative farm systems) to be documented as 'reference files', which sit outside the One Plan;
 - d. a policy allowing consideration of the extent to which any exceedance of the Table 14.2 CNLM limits is due to Overseer® version changes (this is provided for in Policy 14-6 (e) (iv) in **Appendix 2** to our report); and
 - e. MWRC to hold the licence for the Overseer® files for these representative farm systems and to make available, through its website, the Overseer® outputs at any point in time.

Discussion and findings

- 3.228 We consider the reference file system to be a reasoned and quite elegant solution to dealing with the changes to estimated CNLMs through periodic Overseer® updates. As it is outside the plan, it will avoid the necessity of going through another cumbersome plan change process following any significant changes to leaching rates. The use of reference files is provided for as Method 5-13 in the recommended version of PC2 attached as **Appendix 2** to our report.

²²¹ Section 42A Technical Report of David John Horne on behalf of Manawātū-Whanganui Regional Council, On-Farm Management Practices, 4 September 2020, para 44-58, pages 12-15; and Supplementary Section 42A Technical Report of David John Horne on behalf of Manawātū-Whanganui Regional Council, 7 October 2020, paras 49-55, pages 14-16.

²²² Supplementary Section 42A Report of Christine Foster on behalf of Manawātū-Whanganui Regional Council – RMA Planning Matters, 8 October 2020, paras 20–28, pages 10-14.