

Assessing the effectiveness and efficiency of the Waikato Regional Plan

PREPARED BY:	Angus McKenzie, Claudia Richardson (Place Group Limited)
FOR:	Waikato Regional Council Private Bag 3038 Waikato Mail Centre HAMILTON 3240
PUBLICATION DATE	March 2024
DOCUMENT ID	27990676

	Name	Date
Approving Manager	Bruce McAuliffe	11 March 2024

Assessing the Effectiveness and Efficiency of the Waikato Regional Plan



Version: v1.0
Status: FINAL
Date: 30 November 2023



This report has been prepared for:



By:



This report was authored by Angus McKenzie and Claudia Richardson of Place Group Limited. The following Waikato Regional Council staff kindly contributed to this report by agreeing to provide information:

Alistair Parton, Andrew Hammond, Bala TikkiSETTY, Ben Murphy, Bill Vant, Brendan Manning, Brian Richmond, Bruno David, Cameron King, David Stagg, Deniz Ozkundakci, Diane Palmer, Donna Jones, Ed Prince, Eloise Ryan, Emma Cowan, Gareth Read, Ghassan Basheer, Hugh Keane, Jim McLeod, Jonathan Caldwell, Justin Wyatt, Katherine Luketina, Kathryn O'Toole, Kenny Growden, Keri Neilson, Kristina Healy, Mark Brocklesby, Matt Noble, Moniqua Nelson-Tunley, Natasha Grainger, Paul Dutton, Phil Mourot, Suzanne O'Rourke, Rachael O'Donnell, Thomas Wilding, Urlwyn Trebilco.

Cover Photograph: Waikato River sourced from the Waikato Regional Council Annual Report, p.37
<https://waikatoregion.govt.nz/assets/WRC/WRC-2019/6721-Annual-Report-20192020-full.pdf>

Disclaimer

This report has been prepared for the use of Waikato Regional Council as a reference document and as such does not constitute Council's policy.

If excerpts or inferences are drawn from this document for further use by individuals or organisations, due care should be taken to ensure that the appropriate context has been preserved and is accurately reflected and referenced in any subsequent spoken or written communication.

While Place Group Limited has exercised all reasonable skill and care in controlling the content of this report, Place Group Limited accepts no liability in contract, tort or otherwise, for any loss, damage, injury, or expense (whether direct, indirect, or consequential) arising out of the provision of this information or its use by you or any other party.



Executive Summary	6
1. Introduction	7
1.1 Purpose and Scope	7
1.2 Report Structure	7
2. Review Methodology	8
2.1 Best Practice Guidance Review	8
2.2 Evaluation Process	9
2.2.1. Stage 1 - Desktop analysis	9
2.2.2. Stage 2 - Staff workshops	9
2.2.3. Reporting	10
2.3 Review Limitations	10
3. Evaluation context	11
3.1 Overview of the Waikato Regional Plan	11
3.2 Waikato Regional Plan Policy Framework	12
3.3 Regional Plan Monitoring Framework	12
3.4 State of the Environment (SoE) Monitoring	14
3.5 Resource Consent and Compliance Data	15
3.6 Previous Effectiveness and Efficiency Reviews	16
4. Evaluating the Effectiveness of the Plan	24
4.1 Topic 1: Air	25
4.1.1. Analysis of Effectiveness	25
4.2 Topic 2: Geothermal	28
4.2.1. Analysis of Effectiveness	28
4.3 Topic 3: Land and Soil	30
4.3.1. Analysis of Effectiveness	30
4.3. Topic 4: Rivers and Lake Beds	35
4.4.1. Analysis of Effectiveness	35
4.5. Topic 5: Water Quality and Quantity	39
4.5.1. Analysis of Effectiveness	39
4.5.1.1. Lake Taupo Catchment	51
4.6. Topic 6: Matters of Significance to Māori	53
4.6.1. Analysis of Effectiveness	53
4.7 Summary of Effectiveness Evaluation	55



5. Efficiency of the Plan	55
5.4. Cost of the Plan	55
5.4.1. Administration Costs	56
5.4.2. Costs incurred by consent applicants and consent holders	56
5.4.2.1. Costs of obtaining a consent	56
5.4.2.2. Length of Time to get a Consent/Permit Granted	57
5.4.2.3. Costs of Monitoring Consents	57
5.4.3. Broader Economic Costs	58
5.5. Summary of the economic costs of implementing the Plan	59
5.6. Benefits and Costs of the Plan	63
6. Summary and conclusions	63
References	65
Appendix 1 – Potential Regional Plan improvements	67



Executive Summary

Waikato Regional Council is required by section 35(2)(b) of the Resource Management Act 1991 (RMA) to report on the effectiveness and efficiency of policies, rules, and other methods in its plans. Such assessment is not only required by legislation but is good planning practice as part of the ongoing implementation and review of plans.

RMA Section 35 requires the Council to monitor the effectiveness and efficiency of policies, rules, or other methods in the Waikato Regional Plan (Regional Plan), and under s35(2A), at intervals of not more than 5 years, to compile and make available to the public a review of the results of its monitoring.

The purpose of this report is to meet the requirements of s35(2A) and s35(2)(b) in relation to the Regional Plan with a view to inform the current review of the plan and the supporting s32 analysis. This review also contributes to the Council's responsibilities under s79 RMA, which requires the Council to review the Regional Plan (within 10 years of its operative date) and assess any alterations required.

The evaluation has drawn on results of regional monitoring for State of Environment (SoE) reporting, consent data, and staff views on the effectiveness of the plan. The efficiency of the Plan was examined by looking at the administration costs incurred by the Council (related to monitoring and compliance, incident response work, and policy development), the costs incurred by consent applicants and consent holders (costs of applying for and monitoring consents) and broader economic costs. In summary, the evaluation has found that the Regional Plan is moderately effective in achieving the objectives and environmental results anticipated for the region's resources and is efficient in terms of costs relating to implementation.

During the evaluation, it was found that there is limited information in some areas to determine trends and pressures from activities that are managed under the Regional Plan. To assist future evaluations of Regional Plan effectiveness and efficiency, it is recommended that information gathered through consent processes alongside compliance and monitoring data be organised and/or reported in a way that it can be linked to the environmental results anticipated through the plan. This would greatly inform any future review of the plan and enable more detailed analysis of plan efficiencies.

The evaluation process has also been used to capture staff views on the appropriateness and structure of objectives, policies, and rules within the Plan in relation to each of the current modules. These views indicate that the Regional Plan provisions in some areas could be made more consistent, specific, and directive. Clearer policies and rules would remove the need for lengthy policy explanations and provide more measurable (and meaningful) environmental monitoring indicators. Any future review of the Plan will provide an opportunity to consider the Plan's current approach to structuring and drafting provisions.



1. Introduction

1.1 Purpose and Scope

The purpose of this report is to meet the requirements of s35(2)(b) of the Resource Management Act 1991 (RMA) by providing an assessment of the effectiveness and efficiency of policies, rules and methods contained in the Waikato Regional Plan (Regional Plan).

- Effectiveness: At its simplest effectiveness is a measure of whether an outcome sought has been achieved.
- Efficiency: In simple terms, efficiency is a measure of the benefit of a policy relative to its cost.

The report has drawn on a range of information to reach its conclusions on effectiveness and efficiency including:

- State of environment reporting for the Waikato.
- Previous efficiency and effectiveness assessments.
- Consent data, monitoring, and compliance information.
- The views of Council staff on the performance of the plan through a series of facilitated workshops.

The report includes an evaluation of:

- Whether the plan implementation has been effective and efficient.
- Whether state of the environment and consent and compliance monitoring results are in line with the objectives set in the Plan.
- Issues that have arisen through plan implementation, including recommendations for potential policy changes and other relevant matters to inform any future review of the plan.

This report has been prepared by Place Group Limited (PG) on behalf of the Waikato Regional Council (WRC).

1.2 Report Structure

This report is structured as follows:

- Section 1 sets out the purpose and scope of the report.
- Section 2 sets out the methodology followed to complete the evaluation, including the data limitations that have influenced the evaluation findings.
- Section 3 outlines the wider context for the evaluation and includes a summary of the findings of previous Regional Plan effectiveness and efficiency reviews.
- Section 4 provides an assessment of effectiveness structured around the topics set out in chapters 3 to 11 of the Regional Plan. This assessment is an evaluation of whether the anticipated environmental results (i.e. the outcomes) sought through the implementation of



the Regional Plan objectives, policies, rules and methods (policy framework) have been achieved.

- Section 5 provides an assessment of the overall efficiency of the Regional Plan in relation to implementation. Measuring efficiency has involved an evaluation of the benefits of policies/rules/methods of the Regional Plan, relative to the implementation costs imposed by the Plan.
- Section 6 provides a summary of the key findings of the review and sets out key recommendations to inform any future review of the Regional Plan.
- Appendices - The appendices to this report include further detail in relation to the views of staff on the effectiveness of the Regional Plan.

2. Review Methodology

Assessing effectiveness involves evaluating whether the environmental outcomes sought through a policy framework have been achieved. Measuring efficiency involves evaluating whether the costs of implementing the policy framework are reasonable for the benefit gained. Costs and benefits can be evaluated in monetary and non-monetary terms.

The methodology followed to undertake this efficiency and effectiveness review is summarised in the following sections.

2.1 Best Practice Guidance Review

The following national best practice guidance on s35 reporting was reviewed to develop the methodology for this review:

- Regional sector guidance, specifically the report by Enfocus *Evaluating Regional Policy Statements and Plans: A guide for regional councils and unitary authorities (2008)*.
- Ministry for the Environment guidance
- Quality Planning guidance

The guidance recommends that the following principles be applied when undertaking an effectiveness and efficiency assessment:

- Ensure a clear scope for the evaluation parameters. A comprehensive evaluation should incorporate all aspects of a plan, particularly policies, rules, and non-regulatory implementation methods. Evaluations can also be focussed only on specific areas of a plan.
- Identify and explain indicators used for measuring effectiveness and efficiency. Where policies have been identified as not effective or efficient, the reasons for this should be described.
- Utilise a range of available data sources, including stakeholder engagement, resource consent/monitoring data, and SoE monitoring.
- List any limitations and assumptions made in the evaluation.

Drawing on this guidance, a series of questions were developed to structure the evaluation as follows:

- Effectiveness (Outputs): Have the policies and rules in the Plan been implemented?



- Effectiveness (Outcomes): Have the implemented policies and rules resulted in the Plan's objectives being met?
- Effectiveness (Structure): Can achievement (or not) of the Plan's objectives be attributed to implementation of the Plan's rules?
- Efficiency: What is the benefit of implementing the Plan's provisions relative to their costs?
- Change factors: Is the Plan focused on the right issues? That is, are the Plan's policies still appropriate and has anything changed in relation to the Plan's stated resource management issues?

2.2 Evaluation Process

A staged approach was taken to complete the Regional Plan evaluation as set out below.

2.2.1. Stage 1 - Desktop analysis

An initial desktop analysis of available information relevant to the effectiveness and/or efficiency of the Regional Plan was undertaken and included analysis of:

- Existing plan provisions and policy directions, background reports, previous s35 reviews and reviews undertaken across New Zealand.
- Information from Waikato SoE reporting to understand environmental state and trends. This information was used to assess effectiveness by determining whether the Regional Plan had achieved, or is making progress towards achieving, the environmental outcomes anticipated for the region's resources.
- National consent data provided to the Ministry for the Environment (MfE) through the national monitoring programme. This information was used to assess efficiency by examining the costs incurred by the Council and users of the Plan in relation to the benefits the Plan has delivered.
- A range of technical reports were also used to inform the efficiency assessment by providing economic data relating to the implementation of certain provisions in the Regional Plan.

2.2.2. Stage 2 - Staff workshops

In 2020, a series of facilitated workshops were undertaken with WRC staff to draw on their experience, expertise, and knowledge in working with the Regional Plan and to identify areas of strength and weakness in plan provisions.

To support these workshops the following information was provided to participants:

- Summary information on effectiveness for Regional Plan topic areas was developed based on past effectiveness assessments and provided to WRC staff as context for each topic area and assist discussion at the workshop. Topic areas were based on the existing Regional Plan chapters and included the following areas:
 - Topic 1: Air
 - Topic 2: Geothermal
 - Topic 3: Land and Soil



- Topic 4: Rivers and Lake Beds
- Topic 5: Water - divided into the following subtopics:
 - Diversions
 - Non-point Source Discharges
 - Point Source Discharges
 - Lake Taupo Catchment
 - Water Allocation
 - Wetland Clearance/Drainage
- An evaluation template including:
 - Specific Plan provisions related to the topic, relevant background monitoring information and key environmental outcomes.
 - Relevant feedback as set out in the feedback portal.
 - Information on key changes to the Plan provisions.
 - Information on future initiatives that may result in changes to the Plan provisions.

2.2.3. Reporting

Based on information gathered during stages 1 and 2 above, a draft s35 report was developed for staff review in September 2021. This final report incorporates staff feedback on the draft.

2.3 Review Limitations

The evaluation has been undertaken subject to the following notable limitations:

Implementation of the Regional Plan monitoring framework – The Regional Plan includes a comprehensive monitoring framework for the issues that are identified in the plan. Monitoring options are identified to measure the achievement of each objective and/or policy relating to the issue. An example of this framework from the Water Module is provided below:

Objective	Indicators/Measurements	Types of Monitoring	Information Source
People are able to take and use water for their social, economic and cultural wellbeing.	Enquiries, submissions and complaints. Water quality indicators.	Regional trend monitoring, investigations and surveys.	Perception surveys database. Regional economy database. Complaints, enquiries and submissions database. Water quality database.

However, for a range of reasons, including limitations on available resources, this monitoring framework has not been fully implemented as envisioned in the Regional Plan. Council’s latest state of environment report (2022) acknowledges monitoring for forests and wetlands, biosecurity, and geothermal habitats is limited. These limitations have in turn impacted the evaluation of Regional Plan effectiveness set out in this report.

Additionally, in relation to some areas of the plan (ie the water module) the following further limitations were noted through this evaluation:



- The monitoring data collected by WRC does not measure the performance of policies, rules or methods at a micro level to enable detailed conclusions to be drawn on the effectiveness of individual policies within the plan.
- There was very rarely a causal (ie cause and effect) relationship between any one policy provision (the cause) and the trends/findings in the data collected (the effect) in relation to that policy. As such the question of causality or assessing the impact of the policy provision and its effectiveness in achieving the desired outcome, could not be considered in detail.
- The way resource consent and resource consent/permitted activity monitoring/compliance data is gathered, organised and reported on is not aligned with the Regional Plan policy framework. These data sets provide limited in-depth understanding of whether environmental results anticipated through the Regional Plan are being achieved.
- Whilst there is a range of economic data/technical reports available on certain aspects (and modules) of Regional Plan implementation, there is **lack of relevant comprehensive quantitative data** available analysis on the efficiency of the plan. This has limited the extent to which Regional Plan efficiency can be evaluated.

3. Evaluation context

3.1 Overview of the Waikato Regional Plan

The Regional Plan provides direction regarding the use, development, and protection of natural and physical resources in the Waikato Region. It was made operative in part in August 2007. As at October 2023, the Regional Plan contains amendments made by:

- Variation No. 2 – Geothermal Module (made operative on 7 November 2008);
- Variation No. 5 – Lake Taupo catchment (made operative on 7 July 2011); and
- Variation No. 6 – Water Allocation (made operative on 10 April 2012)
- Variation No. 7 – Minor Variation and Geothermal Maps (made operative on 8 December 2010)
- Proposed Plan Change 1 (Healthy Rivers) introduces provisions to manage both diffuse source discharges from agricultural land use and point source discharges (such as sewage from towns and waste from factories). Plan Change 1 is not fully operative and is under appeal to the Environment Court at present.
- Plan Change 2 – Taupō Overseer Version (made operative on 12 October 2020).
National Policy Statement for Freshwater Management 2020 (NPSFM) – insert clauses 3.22(1) natural inland wetlands, 3.24(1) rivers and 3.26(1) fish passage of the NPSFM resulting in new Objective 3.A.1, and Policies 3.A.2, 3.A.3. These were made operative on 30 June 2021.



3.2 Waikato Regional Plan Policy Framework

The Regional Plan is structured into 8 modules, summarised as follows:

- Module 1 – Approaches to Resource Management - Describes the purpose and legislative framework for the plan. The Module also contains provisions for cross-boundary issues, monitoring and review.
- Module 2 - Matters of Significance to Māori - outlines the primary resource management issues of concern to Māori.
- Modules 3 - 7 - Five resource-based modules relating to water, river and lake beds, land and soil, air, and geothermal resources. Each resource-based module has a number of chapters relating to an issue that are to be managed.
- Module 8 - Information Requirements - addressing information requirements, primarily in relation to consent applications.

The resource-based modules form the core of the plan, containing objectives, policies, rules and other methods to address the resource management issues identified. Each chapter within these modules includes the following:

- A general overview of the issues addressed within the module, extent of the environmental problem/s within the region and a discussion of associated adverse effects and their causes.
- An issue statement, which is a statement of concern or problem as it relates to an aspect of natural and physical resources or the management of those resources within the Region.
- Objectives, stating desired outcomes or end states as a result of overcoming the identified issue.
- Policies, as specific statements of the course of action (or type of intervention) which will be taken in order to achieve a stated objective.
- Implementation methods, including rules, that are used to implement the objectives and policies.
- Environmental results anticipated, describing the outcomes anticipated as a result of managing the issue in accordance with the objectives and policies.
- Monitoring requirements, outlining the key indicators and sources of information that may be used to monitor the objectives.

3.3 Regional Plan Monitoring Framework

The Regional Plan contains specific monitoring options for the issue being addressed, which are intended to measure the achievement of objectives and policies relating to that issue. To ensure this task can be undertaken, the Plan states that the Council's regional monitoring programmes should focus on the following key areas:

- **Regional Environmental Trend Monitoring**
General environmental monitoring, that includes evaluating the status of various ecosystems to assess the health and condition of natural and physical resources, and identifying any changes or trends in the quality or quantity of resources within the region. Trend monitoring may include social, cultural, and economic information that is relevant to



the sustainable management of natural and physical resources. Regional environmental trend monitoring information is reported on the Council's Environmental Indicators webpage¹, and informs annual Waikato SoE reporting.²

- **Compliance and Effects Monitoring**

Monitoring the use of resources within the Region and the effects of those uses on the physical, chemical, biological, and intrinsic quantities and values of the environment. This will help assess the extent and way in which resources are being used, identify the likely pressures and threats, and detect any changes or trends in resource use over time. This will be done through monitoring permitted activities to ensure that they comply with the rules in the Plan and that any effects that are occurring are consistent with the Plan objectives.

- **Performance Monitoring**

Monitoring of the effectiveness of actions, activities, or methods introduced to address environmental issues. This monitoring assesses the effectiveness of responses to environmental issues.

- **Community Monitoring**

Monitoring undertaken by community groups such as Care Groups to help develop targets, understand the local environment, and monitor achievements.

- **Research, Investigations and Surveys**

Investigations or studies of specific issues, which can be one-off studies, generally identifying pressures, state, and response in the same study. This provides the technical or scientific understanding that underpins environmental monitoring and reporting programmes. Perception surveys are providing important information on the community's awareness, values, attitudes, and actions.

- **Plan Implementation Monitoring**

Monitoring to ensure that the Plan is being effectively implemented. Means of monitoring will include reviews of the quality of staff reports on consent applications to ensure that they consistently implement the objectives and policies of the Plan. Plan effectiveness monitoring will also include assessment of whether non-regulatory methods have been implemented and the degree to which they have contributed to achieving the Plan's objectives.

¹ <https://waikatoregion.govt.nz/environment/envirohub/environmental-indicators/>

² <https://waikatoregion.govt.nz/environment/stateoftheenvironment/>



3.4 State of the Environment (SoE) Monitoring

The council’s SoE monitoring programme provides robust information to inform policy development and supports a range of actions within the region. Figure 1 summarises the links between the regional SoE monitoring programme and the range of reporting outputs that rely on this data.

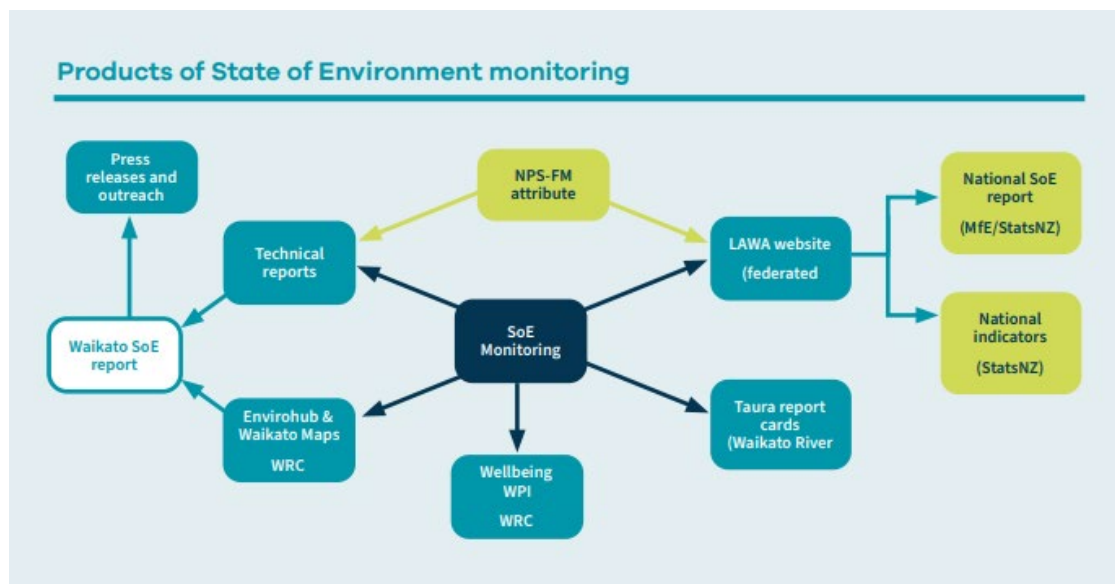


Figure 1: Monitoring data is used in a variety of ways, some of which are captured here.

WRC is required under the RMA to produce an SoE report every five years and the Waikato SoE report is a key output of monitoring programme. The latest report was produced in 2022 and is organised into the following areas:

- Land (Te whenua)
- Air (Te hau)
- Water (Te wai)

Unlike the national report, the latest SoE report makes recommendations on changes to improve environmental outcomes. This report conclusions have informed the conclusion on Regional Plan effectiveness as outlined in the sections that follows.



SoE monitoring data also feeds into the national LAWa database and website³ and the Environmental data hub for the Waikato region.⁴ The Waikato Maps page⁵ provides interactive maps of land cover and other spatial information.

The Waikato River Authority uses the environmental monitoring data to report on progress toward *Te Ture Whaimana o te Awa o Waikato – Vision and Strategy for the Waikato River* and summarises it in report cards.⁶

Nationally, the Ministry for the Environment produces an SoE report every three years, with more frequent updates of national indicators generated by StatsNZ.

3.5 Resource Consent and Compliance Data

When resource consents for activities are considered and granted by WRC, the council is required under the RMA to monitor the effects and the mitigation proposed in relation to the activity to ensure that consent requirements are met. In general, this involves:

- Confirming whether consents have been ‘given effect to’.
- Level of compliance with consent decisions and conditions.
- Monitoring the impact of consented activities on the environment as required through consent conditions.
- Reviewing the effectiveness of consent conditions.

The type and frequency of monitoring that may be required on a consent-by-consent basis can vary significantly. As such, information provided through resource consent processes has not been used to inform this s35 review because:

- There is limited causal relationship between Regional Plan objectives/policies and monitoring/reports produced to meet resource consent conditions;
- There is a lack of consistency in how environmental monitoring data is collected, analysed, and reported;
- There is a lack of comparability between reports/data sets;
- The quality of monitoring data/reports is highly variable.

To assist in improving practice at the national and local level, information on regional resource consents and compliance (monitoring and enforcement) activities is reported to MfE through the National Monitoring System (NMS). The NMS is informed by data provided by individual councils on plans and policy statements, resource consent issues, and other functions, tools, and processes that

³ LAWa is a partnership between the Te Uru Kahika - Regional and Unitary Councils Aotearoa, Cawthron Institute, the Ministry for the Environment, the Department of Conservation, Stats NZ and has been supported by the Tindall Foundation and Massey University. LAWa provides data on environmental indicators in an easy to understand format, helping people and communities connect to their environment and make decisions to balance the use of natural resources use whilst maintaining their quality and availability. See <https://www.lawa.org.nz/explore-data/waikato-region/>

⁴ <https://www.waikatoregion.govt.nz/environment/envirohub/>

⁵ <https://waikatomaps.waikatoregion.govt.nz/Gallery/>

⁶ <https://waikatoriver.org.nz/wra-report-card/>



councils are responsible for under the RMA.⁷ The latest information provided by WRC to MfE has been assessed to inform this s35 review.

3.6 Previous Effectiveness and Efficiency Reviews

The Council has undertaken two previous reviews of the effectiveness of the Regional Plan in 2011 (WRC Document [2105662](#)) and 2014 (WRC Document [3521263](#)). These reports have used as a baseline reference for this review in terms of assessing whether the conclusions still stand and/or whether the key matters raised have been addressed. Further evaluation of these aspects is provided in the conclusions (section 6) to this report.

Key findings from each report are as follows.

Waikato Regional Plan Policy Effectiveness Review (July 2011)

This review focused on:

- Whether the Regional Plan was effective in achieving the desired outcomes;
- Whether there have been significant changes in policy direction that require changes to the regulatory framework; and
- Whether there were gaps in the plan relating to new or emerging issues in the region.

The assessment was intended to establish the overall scope of changes required to the plan and included recommendations on priorities for future work.

The review was largely based on staff feedback received during a number of workshops and reached a number of conclusions on the effectiveness of the Regional Plan as set out in Table 1.

Table 1: Conclusions of the 2011 WRP Policy Effectiveness Review.

Topic	Effectiveness Assessment
Land, Water and Soil	<ol style="list-style-type: none"> 1. Water management classification system – outlines characteristics of water bodies and their values and sets standards for flow levels in water bodies. Although targets are set, mechanisms for achieving them don't go far enough as the plan only requires applicants to 'have regard to' them. Policy framework needs to be addressed to give more weighting to them. 2. Water quality – changes will need to be made to the plan to implement the National Policy Statement for Freshwater Management 2011 (NPSFM 2011). This will need to include a robust policy framework to discourage the idea of 'pollute up to' levels. 3. Variation 5 is a good example of plan provisions that are more in line with the future direction set out in the NPSFM 2011. It sets an absolute limit for nitrogen (seeking to retain current quality level) and translates this to property level. 4. Drinking water – currently addressed through protection zones identified in the plan and this is generally sufficient. 5. Stormwater – current approach is ad hoc and managed through consent process but needs to be moved to catchment based approach. Stormwater issues generally focused on water quality effects not biophysical which need to be

⁷ <https://environment.govt.nz/what-government-is-doing/areas-of-work/rma/national-monitoring-system/>



	<p>considered.</p> <ol style="list-style-type: none"> 6. On-site sewage – rules work reasonably well but could improve maintenance and inspection regimes particularly in high risk areas. 7. Earthworks – permitted activities need revisiting, in particular the limits which are based on the scale of earthworks and not the potential risk – there may also be some issues with implementation of these rules. 8. Also need stronger rules on water quality impacts arising from erosion, though this may be a wider land use change issue. 9. Wetland drainage –this is a major issue and current rules are difficult to enforce as they require knowledge about wetland levels which are unknown. 10. Structures –some limits on structures (including size, catchment size etc) need to be revised. A question was raised about the ongoing need for consents for permanent structures and whether renewal of consents should be a permitted activity. 11. Point source discharges – currently strong rules but some implementation issues that should be addressed through consents (e.g. imposing appropriate conditions). Policy framework may need to be changed in future to address potential consequences of NPSFM 2020 such as trade offs. 12. Forestry – will need to be updated following the NES-PF release. 13. Agriculture – generally agreed to be the main problem for land, water and soil quality as main source of diffuse contaminants and needs to be addressed (confirmed in recent Officer of the Auditor General report). Some current issues with Permitted Activity rules including generally permissive approach, compliance, enforcement and interpretation issues, some rules need to be updated including stock in waterways and discharges of stock truck effluent and some gaps need to be addressed such as sacrifice paddocks and limits on stock. 14. Potential gaps in the plan include: <ul style="list-style-type: none"> – Water Storage – not addressed in the plan and need to be considered in line with NPSFM 2011; – Water flows effects –land use change increasing surface water run off is not addressed explicitly; – Cultivation – not explicitly addressed in the plan including carbon farming and keeping soil in situ; – Waste tyres – becoming an increasing issue; – Cemeteries – discharges to land and water not effectively covered.
Biodiversity	<ol style="list-style-type: none"> 1. Regional plan does not currently address biodiversity explicitly though manages some aspects through other policies and methods (e.g. vegetation clearance for protection of water quality) – need to take a stronger approach to managing this is the plan to encourage others to do the same. 2. Vegetation clearance is a permitted activity which means that it is unknown how much vegetation clearance is happening – needs to address not just vegetation near water and address artificial watercourses. 3. Current gap around exclusion for plantation forestry. 4. Issues in general with loss of riparian vegetation which causes knock on effects in stream – major problem on farms and need stronger mitigation and planting requirements. Planting only has a biodiversity impact if it is significant enough – needs a staged process starting with protecting existing biodiversity, clearing pests and weeds and then planting and fencing. 5. Effects on terrestrial biodiversity as a result of earthworks are not well considered. 6. Need to be clear on vegetation clearance around drains as more stringent rules may cause compliance issues. 7. Drainage around wetlands is not currently managed well and difficult to know when changes in levels have occurred or prove that the location of the activity is



	<p>hydrologically connected. Could also change provisions, to address activities within 500m of a wetland rather than 200m as is currently the case or completely protect RAMSAR wetlands.</p> <ol style="list-style-type: none"> 8. Missing vegetation rules around wetlands to address the issue of pest species and stock access to wetlands. 9. Some activities being carried out to manage hazard risk such as flood protection measures have an indirect impact on biodiversity and these are not being addressed – need a trigger to assess biodiversity effects and policy direction that enables consents to be turned down on this basis. 10. Current permissive regime in the plan can undermine other activities – eg allowing riparian vegetation clearance while encouraging riparian planting through the clean streams initiative. 11. Limited protection for aquatic invertebrates and fish (compared to birds and vegetation) – requires control of new barriers in water bodies. Assessments should start with natural watercourses and work from the headwaters to the end zone to prioritise areas for action. 12. Culverts not meeting Permitted Activity requirements can have an impact on fish passage, as can hydro schemes indirectly – this is often an enforcement or consenting issue rather than plan provisions.
Heritage and Landscapes	<ol style="list-style-type: none"> 1. Plan does not address heritage and landscapes directly though does have some provisions considering impacts of activities on natural character, amenity and public access. 2. Current plan distinguishes between natural heritage and historic heritage which is a significant difference – currently WRC manage natural heritage reasonably well but historic heritage is a new area – this may not be managed through the regional plan but through other methods. 3. Cultural heritage generally managed well through consenting process at present due to requirements to consult with iwi. 4. Activities controlled by the plan have an ability to impact on heritage and landscapes and should address these though at present there are no major unacceptable effects happening as a result of limited policy direction. 5. Some rules regarding restricting access to the CMA exist but the RPS requires plans to identify where restrictions on access to lakes and rivers are also appropriate. Existing rules need to be revisited to make sure they are achieving the objectives in the RPS.
Geothermal	<ol style="list-style-type: none"> 1. Geothermal section of the plan was developed later than other parts of the plan so is more up to date. 2. Rules are generally effective and clear with some interpretation issues and implementation is not always done well. 3. Current plan uses a classification system for geothermal areas which is generally effective. 4. Current lack of ability to get useful data from developers which needs to be resolved through a consenting processes. 5. Some issues with particular rules in the plan: <ul style="list-style-type: none"> – Large takes in development systems – unclear what rule applies as depends on hydrological connectivity which is difficult to assess; – Notification condition on Permitted Activities in development systems – need some way of getting information without this condition; – Significant geothermal features maps aren't used well – may be a training and education issue and only affects a few consents; – Vegetation clearance is covered but not planting near geothermal features – may need restriction on exotic planting within 20m of significant geothermal features. 6. Current plan maps geothermal water features but only captures about 10% and



	needs to be more comprehensive to stop adverse effects on these features.
Air	<ol style="list-style-type: none"> 1. Point source discharges generally well covered though plan may be too permissive on some Permitted Activities – may need to be tightened for non-complying air sheds or urban areas around industrial combustion. 2. Plan needs to include an allowance for operation of emergency generators which may require different conditions to other activities. 3. Plan needs to better address outdoor burning including restricting burning of silage wrap and potentially some wording tweaks to add clarity to the prohibited activity rule – this applies to both the coastal and regional plans. 4. Combustion rules need to include reference to combustion of biofuels as this is currently a gap – biofuels may need to be defined. 5. Agricultural spray rules are hard to enforce and regulate due to complex conditions for permitted activities. 6. Assessing effects on air quality is generally done sufficiently through a consenting process but could be done more consistently through applying the criteria suggested in the RPS (Policy 5.2) and including it in the plan. 7. Some gaps in the plan including: <ul style="list-style-type: none"> – Addressing diffuse PM10 discharges (eg dust); – Regulation of domestic wood burners; – Discharges from transport; – Effects from large scale earthworks such as roading activities. 8. Alter all permitted activities to include a condition that they can't cause NES exceedance.
Natural Hazards	<ol style="list-style-type: none"> 1. Some rules in the plan currently address the issue of reducing risk mainly with regards to flooding and land instability but these are largely about activities that may cause hazards, not management of risk: <ul style="list-style-type: none"> • Floodplain management rules need to be reviewed more clearly through defining the floodplain and stating what can be done and addressing the issue of infill and ancillary structures specifically – currently addressed through damming and diversion rules; • Diversion of water rules cover effects of discharges on flooding but not hazard risk; • flooding effects generally covered but could improve with some minor changes including inclusion of standards to be used; • Minor amendments to tighten approach overall and simplify terminology used. 2. Regional plan is not used as a key tool in managing natural hazards and more about controlling activities that are managed by the plan that may have an impact on hazard management – this is generally sufficient. 3. Regional plan may need to address land use in primary hazard zones depending on the outcome of the RPS process. 4. Existing plan is too permissive and ad hoc so does not address cumulative effects well.



The Waikato Regional Plan and Waikato Regional Coastal Plan Review: Implementation Perspectives (October 2014)

In 2014, WRC commissioned an assessment of the Regional Plan (and the Coastal Plan) to identify rule provisions of the Plans that were not working and how they might be improved, from the perspective of staff as rule implementers and users.

The Waikato Regional Plan and Waikato Regional Coastal Plan Review: Implementation Perspectives (October 2014) identified a range of potential changes for the Regional Plan, along with suggested improvements. Explicit policy guidance was sought for a range of matters including:

- air module –general approach, and technical issues associated with agrichemicals;
- geothermal – zone and field definition, and access to data from consent holders;
- farm activities – level of control and detail of expected actions;
- land management - particularly gullies, perennial wet areas, drainage, overburden, wetlands, biodiversity, pest pathways;
- water – particularly water treatment overflows, run-off;
- structures – maimai/ whitebait stands, dams.

One strong recommendation that emerged from staff interviews was to develop an implementation plan in parallel to any Regional Plan review process. A summary of the key findings from the review is set out in Table 2 below.



Table 2: Summary of key findings

Topic	Key themes from literature review	Key themes from interviews
Vision and Strategy for the Waikato Rive	<p>There is a need to consider:</p> <ul style="list-style-type: none"> • what level of “give effect to” is required • the status of the Waikato River • the application of Maatauranga Maori • the relationship values of the iwi and community with the Waikato River and its catchment • cumulative effects and precautionary approach. 	
Strategic priorities for Council	<ul style="list-style-type: none"> • sustaining the values of land and water • not unnecessarily restricting regional development incorporating co-governance principles 	
Underlying approach to plan/ rules/ rule writing	<ul style="list-style-type: none"> • There is a need to consider: whether the “enabling” approach of the current WRP is still appropriate • and be clear about the purpose of having rules: (i.e., they are not only required by legislation, or used to prioritise environmental effects, but also provide security of business for applicants) • whether rules should be activity based or effects based or a combination of both; and whether there needs to be different rules for different geographic areas • economic impacts on regional development and on consent holders • cost and practicality of compliance and environmental monitoring • relevance of existing rules that have not been used • statements of notification/ non notification. 	<ul style="list-style-type: none"> • if the underlying approach to the plans is “enabling without bureaucracy”, then it is essential that the policies are written more strongly and in a way that clarifies how activities are to be managed and what matters need to be controlled. In addition, compliance implications for any “enabling” rule must be clarified • there is a need to consider the economic impacts of rules on Council and applicant, and a cost- benefit analysis should be applied to rules • Amongst those interviewed there was an inconsistent view on the relationship between the RPS and the plans i.e., whether the plan is a “stand-alone” document; and the relationship between the WRP/WRPC and other statutory plans such as the Pest Management plan. • There is a need to consider a more enabling approach for ICM activities



Alignment	<p>There is a need to ensure rules:</p> <ul style="list-style-type: none"> • are consistent across MHWS have an appropriate hierarchy and avoid mismatches (such as circular links) or overlaps • take into account monitoring results undertaken to date (both from consent monitoring and SPI monitoring) • takes into account catchment management plans 	<p>There needs to be:</p> <ul style="list-style-type: none"> • consistency across MHWS consistency across common activities • consistency in way standards and terms/ conditions of rules are written • a clear hierarchy of rules/ logical flow chart between rules. • monitoring results from consent monitoring should be used to support rule writing • take into account catchment management plans
Plan Structure/ Implementation Plan		<ul style="list-style-type: none"> • strong support for a slimmer plan - focusing on policies and rules • strong request for parallel development of an implementation plan (covering a range of matters identified in interviews) • retain activity table at beginning of plan ensure explanations provide rationale to assist with interpreting rules • retain critical “other methods”
Policy & Rule development process		<ul style="list-style-type: none"> • be specific about outcomes being sought and ensure an appropriate tool is used to develop more specific policy guidance. Further policy guidance sought in areas such as “enhancement”, cumulative effects, • duration of consents; landscape, natural character, wetlands and biodiversity (resulting from the recent Supreme Court determination) • assess and avoid potential unintended consequences • detail the economic impact for council and applicants • involve RUD & ICM staff in testing rules
General/ Technical issues re: rules	<p>There is a need to:</p> <ul style="list-style-type: none"> • provide clear definitions, i.e., avoid ambiguity • provide clear scope and intent • distinguish between rules and consent conditions – i.e., be clear about the role/ purpose of standards & terms, assessment criteria etc 	<p>When writing rules it was suggested that there is a need to:</p> <ul style="list-style-type: none"> • focus on outcomes being sought • if it can’t be implemented, it should not be a rule • state notification requirements • use clear, consistent easily understood, enforceable terminology • include references to existing best practice guidelines • cover all elements of an activity in a single rule



	<ul style="list-style-type: none"> • ensure rule provisions can be complied with, monitored and enforced • manage cumulative effects • state specifics to be met, within a rule • permitted activity rules need to be simple, understood by all and have clear boundaries/ triggers for compliance 	<ul style="list-style-type: none"> • permitted activities should only be used for activities with minor effects i.e., If an activity requires Council involvement it should not be classed as a permitted activity clarify intent of and be consistent re: use of standards and terms/ conditions
Gaps/ amendments in rules	<ul style="list-style-type: none"> • a wide range of new rules and amendments have been identified for further consideration • new rules are primarily activity-based • some existing rules are too permissive permitted activity rules need to be “black & white”, simple, give certainty to users, be easily understood, easily complied with and enforceable. 	<ul style="list-style-type: none"> • as per column 2 comments • refer also to priority areas identified below



4. Evaluating the Effectiveness of the Plan

The evaluation below has been arranged into the following topic areas:

- Topic 1: Air
- Topic 2: Geothermal
- Topic 3: Land and Soil
- Topic 4: Rivers and Lake Beds
- Topic 5: Water Quality and Quantity
- Topic 6: Matters of Significance to Māori

These topic areas broadly align with the modules of the Regional Plan and the effectiveness evaluation under each topic area includes:

- An outline of the key objectives and the environmental results anticipated by the Regional Plan.
- A summary of outcomes of the most recent environmental monitoring results (including trend data) as relevant to the objectives and environmental results anticipated.
- An analysis of the effectiveness of the policy framework in relation meeting the objectives of the plan and achieving the environmental results anticipated as confirmed and/or indicated by environmental monitoring results.

Based on the above evaluation, an overall assessment of effectiveness has been made for each section of the Regional Plan using the following ranking system:

- Highly effective –over 80% of objectives are being met and over 80% of the environmental results anticipated are being achieved.
- Moderately effective – 50 to 80% of the objectives and environmental results anticipated are being met.
- Low effectiveness – less than 50% of the objectives are being met.
- Not effective – less than 20% of the objectives or environmental anticipated results are being met.

It should be noted that the overall assessment is only an indication of Regional Plan performance and based on data that could be reasonably reviewed in the preparation in this report. Where limited data is available this has been noted in the assessment.

Through the evaluation process a range of “potential improvements” to the Regional Plan were identified by staff that participated in the facilitated workshops. These improvements do not necessarily relate to whether the plan is effective (or efficient) or not but are important to capture for further consideration through any future Regional Plan variations/reviews. These improvements are captured in **Appendix 1** to this report for use in plan review processes as may be required.



4.1 Topic 1: Air

4.1.1. Analysis of Effectiveness

Table 3: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Effectiveness of the policy framework
<p><u>Regional and Local Air Management</u></p> <p>Objective 6.1.2.1: Significant characteristics of air quality as identified in Table 6-1 are:</p> <ol style="list-style-type: none"> protected where they are high enhanced where they are degraded otherwise maintained. <p>Objective 6.1.2.2: No significant adverse effects from individual site sources on the characteristics of air quality beyond property boundary.</p> <p>Objective 6.1.2.3: Cumulative effects of discharges on ambient air quality do not:</p> <ol style="list-style-type: none"> present more than a minor threat to the health of humans, flora and fauna cause odour that is objectionable to the extent that it causes an adverse effect result in levels of suspended or deposited particulate matter that are 	<p><u>Regional and Local Air Management</u></p> <ol style="list-style-type: none"> Ambient air quality within regional guideline levels. Early detection of degradation of air quality in specific locations. Reduction in instances of reverse sensitivity effects. Adequate data to support the adoption of an Air Quality Management approach. No discharges of particulate matter that are objectionable to the extent that they cause adverse effects beyond the property boundary. No discharges of odour that are objectionable to the extent that they cause adverse effects beyond the property boundary. Discharges of hazardous contaminants at a level where there is a low risk of causing adverse effects on human health and the health of flora and fauna beyond the boundary of the subject property. 	<p><u>State of Environment Monitoring</u></p> <p>State of environment reporting for the Waikato Region notes the following trends in air quality in the Waikato:</p> <ul style="list-style-type: none"> Air quality improvements have been seen for the Te Kuiti and Taupō airsheds in relation to meeting National Environmental Standards. This is largely attributed to reduced emissions from home heating sources. The Tokoroa airshed is also improving, however, it has not met the NES-AQ and World Health Organisation guidelines for PM10 and PM2.5. There is some evidence of arsenic and lead contamination from the burning of treated and painted wood in Tokoroa. Since 2013, both the 24 hour average and annual average PM10 concentrations within the Hamilton airshed have complied with the 	<p>Based on SoE monitoring results for the Waikato Region, the Regional Plan policy framework has been effective in achieving air quality outcomes sought through Objective 6.1.2.1 and identified in Table 6-1.</p> <p>SoE monitoring confirms ambient air quality seems to be stable or improving in most airsheds, meeting Objective 6.1.2.1 and 6.1.2.3. It is important to note that this trend is largely attributed to reduced emissions from home heating sources which is not managed under the Regional Plan.</p> <p>In relation to Objective 6.1.2.2, Council regularly monitors and reports on regional air quality therefore enabling early detection of degraded air quality at certain locations. The data gathered from monitoring also helps to support the adoption of an Air Quality Management approach.</p> <p>In relation to Objective 6.1.2.3f, SoE reporting has noted tangata whenua concerns with the effects of poor air quality on the mauri of te hau, therefore, there</p>



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Effectiveness of the policy framework
<p>objectionable to the extent that they cause adverse effects</p> <p>d. have a significant adverse effect on visibility</p> <p>e. cause accelerated corrosion of structures</p> <p>f. cause significant adverse effects on the relationship tangata whenua as Kaitiaki have with their identified taonga such as air, ancestral lands, water and waahi tapu.</p> <p><u>Discharge of Agrichemicals into the Air</u></p> <p>Objective 6.2.2: Agrichemicals used in a manner that avoids the significant adverse effects of off target exposure from their discharge and which do not have adverse effects that conflict with the objectives in Section 3.1.2 of this Plan.</p>	<p>8. Discharges to air that do not significantly change visibility on a local or regional scale.</p> <p>9. Discharges to air that do not cause accelerated corrosion or corrosive effects on structures beyond the boundary of the subject property.</p> <p>10. Minimisation of short and long term contamination of soil and water as a result of the discharge of contaminants to air.</p> <p>11. Air management outcomes that are consistent with the values held by tangata whenua as Kaitiaki.</p> <p><u>Discharge of Agrichemicals into the Air</u></p> <ol style="list-style-type: none"> 1. Decreased incidents of substantiated complaints regarding off-target spray drift. 2. Increased awareness and use of good practice and industry codes of practice. 3. Increased training and registration of agrichemical applicators. 4. A more co-ordinated approach to off-target spray drift between parties with functions in this area. 	<p>NES-AQ and World Health Organisation guidelines.</p> <ul style="list-style-type: none"> • In Hamilton, benzene concentrations have been improving since 2003, and the one-hour average nitrogen dioxide concentrations have met the NES-AQ one hour standard since 2011. • Trend analyses undertaken for 12 passive nitrogen dioxide sites monitored by Waka Kotahi has identified only one site in Hamilton with a worsening trend and five sites with an improving trend (four in Hamilton and one in Te Awamutu). • Some previously compliant airsheds will not meet some air quality standards under the World Health Organisation guidelines, if the guidelines are introduced into legislation. <p>Council has estimated the following sources and their contributions to the total gross greenhouse gas emissions for the Waikato region⁸:</p> <ul style="list-style-type: none"> • Transport – 15% 	<p>could be a case that the regional plan is not effective in providing air management outcomes that are consistent with the values held by tangata whenua as Kaitiaki.</p> <p>Objective 6.2.2 – There is a lack of specific data to determine the effectiveness of the plan in achieving the environmental outcomes relating to the discharge of agrichemical into air. However, expert staff have commented that overall, the agrichemical discharge rules are effective in terms of deterring more than minor adverse effects from these activities. It was also noted that monitoring the effects from consented discharge activities has been difficult.</p> <p>Overall, the Regional Plan policy framework is considered highly effective in achieving the objectives and environmental results anticipated for the air quality topic.</p>

⁸ [Te oranga o te taiao Waikato State of the Environment 2022](#), Page 31 of the Air Chapter.



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Effectiveness of the policy framework
		<ul style="list-style-type: none"> • Electricity generation – 13% • Agriculture 69% • Forestry removed 44% of the total emissions <p>Not accounted for in these estimates are emissions from drained peat and other organic soils , which will be assessed in a supplementary technical report for the 2023 inventory.</p> <p>The report also notes tangata whenua’s concern with the health effects from air contamination’s as well as the climate impact from emissions’, particularly in how those effects the mauri of te hau.</p>	



4.2 Topic 2: Geothermal

4.2.1. Analysis of Effectiveness

The following table evaluates the effectiveness of the policy framework in achieving the environmental outcomes anticipated relating to the region’s geothermal resources.

Table 4: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p>Objective 7.3.1 - Where geothermal energy and water is taken, it shall be used and managed efficiently.</p> <p>Objective 7.3.2 - In Development Geothermal Systems, significant adverse effects on Significant Geothermal Features arising from the take of geothermal energy and water to be remedied or mitigated within the Regional Geothermal Resource.</p> <p>Objective 7.3.3 - In all Limited Development, Research, Protected, and Small Geothermal Systems, significant adverse effects on Significant Geothermal Features arising from the take of geothermal energy and fluid are to be avoided.</p> <p>Objective 7.3.4 - Significant adverse effects on Significant Geothermal Features arising from</p>	<ol style="list-style-type: none"> 1. The sustainable management of the Regional Geothermal Resource 2. People and communities being able to provide for their social, economic and cultural wellbeing through the appropriate use, development and protection of the Regional Geothermal Resource. 3. Geothermal surface features and resource management matters of significance to tangata whenua identified, and recognised and provided for. 4. Efficient use of the Regional Geothermal Resource including the use of alternative technologies such as down-hole heat exchangers. 5. Significant adverse effects on Significant Geothermal Features in Development Geothermal Systems arising from the take, use, and discharge of geothermal 	<p><u>State of Environment Monitoring</u></p> <p>SoE reporting notes that there are currently gaps in Council’s monitoring of geothermal resources. In particular it highlights that the rapid expansion of geothermal development as a renewable energy source, is not matched by council investment in monitoring of the resource.</p> <p>The technical report on the regional geothermal resource (October 2022) that informs the regional SoE notes:</p> <p><i>...that prior to the enactment of the Resource Management Act 1991 (RMA) there was destruction and depletion of significant parts of the Regional Geothermal Resource.</i></p> <p><i>The resource is now largely protected, at least in law, by the RMA and regional policy instruments restricting or prohibiting adverse</i></p>	<p>The October 2022 technical report notes that there is no formal quantitative assessment available on the success of the environmental results anticipated in the Regional Plan in relation to the geothermal module.</p> <p>However, it is fair to say that the existing geothermal policy has effectively halted most of the major adverse effects of development of geothermal resources and of land and water affecting geothermal resources. To this end the policy framework of the Regional Plan can be considered effective in meeting Objectives 7.3.2 to 7.3.7.</p> <p>The framework has not been able to turn the clock back on irreversible existing adverse effects.</p> <p>In relation to Objective 7.3.1 there is insufficient information available to reach a</p>



<p>land use and the take, use and discharge of non-geothermal water to be avoided.</p> <p>Objective 7.3.5 - In Development Geothermal Systems, adverse effects on other natural and physical resources including overlying structures (the built environment), such as those resulting from subsidence and land instability, arising from the take, use, and discharge of geothermal energy or water to be avoided, remedied or mitigated.</p> <p>Objective 7.3.6 - In Limited Development Geothermal Systems, significant adverse effects on other natural and physical resources including overlying structures (the built environment) such as those resulting from subsidence and land instability, arising from the take, use, and discharge of geothermal energy or water to be avoided, remedied or mitigated.</p> <p>Objective 7.3.7 - Significant adverse effects on fresh water and land arising from the discharge of geothermal energy and water avoided.</p> <p>Objective 7.3.8 - Increased knowledge about the Regional Geothermal Resource, and better understanding of the effects of using the resource and effects of other activities on the resource.</p>	<p>energy and water remedied or mitigated in any Geothermal System.</p> <ol style="list-style-type: none"> 6. No significant adverse effects on Significant Geothermal Features in Limited Development, Research, Protected, and Small Geothermal Systems as a result of human activity. 7. No significant adverse effects on Significant Geothermal Features as a result of land use and the use of non-geothermal water. 8. No reduction in the life-supporting capacity and biodiversity or overall sustainability of Research and Protected Geothermal Systems as a result of human activity. 9. Adverse effects on other natural and physical resources including overlying structures (the built environment) avoided, remedied, or mitigated. 	<p><i>effects on surface geothermal features and ensuring that extractive uses are sustainable and from geothermal systems where adverse effects on surface geothermal features can be minimised. Nevertheless, increasing demands for this low-carbon energy source, and development pressures on the land surrounding geothermal surface features, lead to some adverse effects, whether consented or non-consented.</i></p> <p><u>Consent Data</u> Feedback from staff has indicated that there are currently 5 big sites that use Geothermal resources. There have been some renewals of geothermal take consents which tend to be quite complex. A lot of consents have been lodged for small takes of geothermal energy. The number of land use consents lodged relating to geothermal areas has been estimated at 1-2 per month.</p> <p><u>Compliance Monitoring</u> Staff feedback has indicated that companies are likely to have the latest modelling data and it is a requirement under the WRP to provide this data to WRC, however, there seems to be a loophole for companies to avoid this requirement. As result, there is minimal compliance monitoring available.</p>	<p>clear conclusion on the effectiveness of the policy framework.</p> <p>Assessment of this requires good quality data and information. In terms of measuring efficiency, the adverse effects of take, use and discharge of the geothermal resource are difficult to assign to one of multiple operators because of uncertainty around cause and effect relationships. Remedying adverse effects relies on a co-ordinated and integrated approach and understanding. Land access will affect the effectiveness of response.</p> <p>In relation to Objective 7.3.8, SoE reporting and feedback from staff has noted the lack of good quality monitoring data on the region's geothermal resources severely impairs the ability to identify and respond to the threats. The policy framework has not been effective in meeting this objective, noting that a range of other factors contribute to this issue, including resource limitations that apply to council.</p> <p>Overall, the Regional Plan policy framework is considered moderately effective in achieving the objectives and environmental results anticipated for geothermal topic.</p>
---	--	---	--



4.3 Topic 3: Land and Soil

4.3.1. Analysis of Effectiveness

The following table evaluates the effectiveness of the policy framework in achieving the environmental outcomes anticipated relating to the region’s land and soil resources.

Table 5: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p><u>5.1.2 Accelerated Erosion</u></p> <p>A net reduction of accelerated erosion across the Region so that:</p> <ol style="list-style-type: none"> soil productivity, versatility and capability is maintained. there are no adverse effects on water quality, aquatic ecosystems and wetlands that are inconsistent with Water Management Objective 3.1.2. there is no increase in the adverse effects of flooding or land instability hazards. accelerated infilling of lakes, estuaries, rivers, wetlands and cave systems is avoided and the rate of infilling of artificial watercourses, excluding structures designed to trap sediment, is minimised. 	<p><u>Accelerated Erosion</u></p> <ol style="list-style-type: none"> A reduction of the areas within the Region affected by accelerated erosion. Improved water quality as a result of reduced severity of accelerated erosion. Reduced rates of accelerated infilling of estuaries, lakes, artificial watercourses, rivers and karst systems. Maintenance of the life supporting capacity of soils. Greater public awareness of the importance of maintaining stable productive soils. Maintenance of the ecological values associated with land. 	<p>SoE reporting on soil resources include monitoring intensive land use changes, such as forestry to pasture, or pasture to urban, as these types of changes tend to put high pressure on land resources.</p> <p>The report notes that soil erosion continues to be a problem for the Waikato region, where sediment reduces water clarity and smothers the habitat of small animals that live on the bed of rivers, lakes and estuaries.</p> <p>SoE reporting notes the following trends in land use change over time:</p> <ul style="list-style-type: none"> From 2001 to 2018, pastoral land in the Waikato region increased in area by an estimated 41,527 hectares due to the net conversion of planted forest. An estimated 504,335 hectares (40 per cent) of pastoral land underwent 	<p>SoE monitoring notes that whilst land use intensification over time has increased pressure on the region’s soil resources, most of the region’s soils are of satisfactory quality for their current use. This likely depicts the effectiveness of the relevant provisions in the regional plan in managing the effects of land use activities on soil quality in the region.</p> <p>The Regional Plan policy framework is only one tool for managing accelerated erosion within the region and the Council also undertakes a range of non-regulatory interventions to manage this issue.</p> <p>In terms of the scope of regional plan SoE monitoring indicates:</p> <ul style="list-style-type: none"> Objective 5.1.2a is largely being met and the plan framework is effective.



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p>e. significant adverse effects on the relationship tangata whenua as Kaitiaki have with their identified ancestral taonga such as ancestral lands, water and waahi tapu are avoided.</p> <p>f. cumulative adverse effects on the relationship tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water, waahi tapu are remedied or mitigated.</p> <p>g. significant adverse effects on natural character and ecological values associated with land and the coastal environment including dune systems is avoided.</p> <p>h. there are no adverse effects on air quality that are inconsistent with Air Quality Objective 6.1.2, Objectives 2 and 3.</p> <p>i. damage to property and infrastructure is avoided in particular in High Risk Erosion Areas together with: Catchments of estuaries that are areas of significant conservation value on the Coromandel Peninsula Karst and cave systems.</p>		<p>some intensification between 2001 and 2018, an increase from previous years.</p> <ul style="list-style-type: none"> • Fiver yearly monitoring of soil quality targets shows a significant increase in sites meeting at least five of seven targets. <p>Council’s monitoring data also identifies the following further trends in soil resources:</p> <ul style="list-style-type: none"> • Five yearly monitoring of soil quality targets shows a significant increase in sites meeting at least five of seven targets between 2014 and 2021 (a rise from 77 per cent to 92 per cent), and that most of the region’s soils (80 per cent) are of satisfactory quality for their current use. • Aerial surveys have observed (completed between 2007 and 2017), a decrease in the percentage of stable land (no evidence of erosion), an increase in unstable surfaces (erosion prone, inactive) and a decrease in surfaces that were recently or currently eroding. • soil quality is ‘of concern’ on about 18 per cent of pastoral farming land, mostly due to soil compaction and excessively high soil fertility on some dairy farms. 	<ul style="list-style-type: none"> • Objectives 5.1.2b and 5.1.2c are not being met and the plan framework is less effective in these areas. • Objective 5.1.2h is being met as noted in table 3 above. <p>There is limited available data to determine plan effectiveness in relation to Objectives 5.1.2d, e, f, g and i. No conclusion can be draw on these aspects.</p> <p>Overall, the Regional Plan policy framework is considered moderately effective in achieving the objectives and environmental results anticipated for accelerated erosion.</p>



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p>5.2.2 Objective Discharges of wastes and hazardous substances onto or into land undertaken in a manner that:</p> <ul style="list-style-type: none"> a. does not contaminate soil to levels that present significant risks to human health or the wider environment. b. does not have adverse effects on aquatic habitats, surface water quality or ground water quality that are inconsistent with the Water Management objectives in Section 3.1.2. c. does not have adverse effects related to particulate matter, odour or hazardous substances that are inconsistent with the Air Quality objectives in Section 6.1.2 is not inconsistent with the objectives in Section 5.1.2. d. avoids significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their taonga such as ancestral lands, water and waahi tapu. e. remedy or mitigate cumulative adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu. 	<p><u>Discharges Onto or Into Land</u></p> <ol style="list-style-type: none"> 1. A decline in the number of contaminated sites created each year. 2. An increase in the number and use of refuse transfer stations in rural areas and hazardous waste collection depots. 3. Solid waste on farms managed in a way that avoids adverse effects. 4. A reduction in the proportion of green waste in municipal solid waste streams going to landfill. 5. Increased rates of waste oil recycling/recovery through the oil industry waste oil collection programme and territorial authority collection systems. 	<p>As at March 2021, 282 previously contaminated sites in the Waikato region have been remediated or managed so they are no longer pose a risk to people or the environment.</p> <p>The Council recognises that disposal to landfills is increasing and that wastes from areas outside our region (such as from Auckland, Tauranga and as far as Gisborne) are being brought into the Waikato region for disposal.</p> <p>The region has five disposal sites associated with industrial operations and five municipal solid waste landfills. Most of our open landfills are quite small, except for Hampton Downs, which receives around 600,000 tonnes of waste per year, and Tirohia which receives 120,000 tonnes waste per year. Hampton Downs is the region's largest landfill. It is built on 386 hectares of ex-farmland with a capacity of 30 million cubic metres. Hampton Downs is consented for 25 years beginning in 2005.</p> <p>We also have 13 or more consented cleanfills of significant size. Two of these are what would be referred to as managed fill sites (Class 3). The rest are Class 4 (controlled fill sites). Two consent applications currently being processed by Waikato Regional Council for two new managed fill sites (Class 3) which will be quite</p>	<p>Monitoring data indicates that the Regional Plan policy framework for managing discharges of water and hazardous substances, supported by national interventions is effective in meeting Objective 5.2.2a and b. This data also indicates that the environmental results anticipated through the plan are being met. Regarding these aspects the policy framework is considered effective.</p> <p>As set out in air quality and accelerated erosion assessments of this report, the policy framework is also considered to be effective in relation to meeting 5.2.2c.</p> <p>There is no specific data available in relation to avoidance of significant effects and cumulative effects on ancestral lands, water and waahi tapu sites, however these aspects are regularly assessed through the consent application processes. Monitoring data indicates that these effects are being avoided in general. The policy framework can be said to be moderately effective in relation to objective 5.2.3d and e.</p> <p>Overall, the Regional Plan policy framework is considered highly effective in achieving the objectives and environmental results anticipated for discharges wastes and hazardous substance onto or into land.</p>



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
		<p>significant in size. Over 40 other landfill sites have closed as they could not meet modern environmental standards.</p> <p>In the Waikato region much of our solid waste is disposed of in landfills or cleanfills. Solid waste and sludges are also:</p> <ul style="list-style-type: none"> • re-used as soil conditioners or fertiliser substitutes • incinerated at special facilities such as hospital incinerators and co-generation plants using wood waste as fuel • kept in long term storage or managed on site (for example, potentially acid-producing wastes from the mining industry). 	
<p><u>Contaminated Land</u></p> <p>Objective 5.3.2</p> <p>Discharges of contaminants from contaminated land shall be managed so that they:</p> <ol style="list-style-type: none"> a. do not present significant risk of chronic or acute toxic effects on human health, flora or fauna due to the contamination of soil and ground or surface water 	<p><u>Contaminated Land</u></p> <ol style="list-style-type: none"> 1. Contaminated land in the Region identified, managed and where possible remediated. 2. Greater public awareness of the importance of maintaining a record of the status of the contaminated land through the LIM and PIM processes. 3. Improved water, air and soil quality in the vicinity of confirmed 	<p>As at March 2021, 282 previously contaminated sites in the Waikato region have been remediated or managed so they are no longer pose a risk to people or the environment.</p> <p>A Hazardous Activities and Industries List (HAIL) lists specific land uses that can potentially cause contamination of sites. Waikato Regional Council maintains a Land Use Information Register, compiled of properties in the Waikato region where HAIL activities have historically or are currently being carried out.</p>	<p>Monitoring information demonstrates that the current policy framework (supported by national policy interventions and funding) is meeting objective 5.3.2 a to c, and the environmental results anticipated within the Regional Plan are also being achieved.</p> <p>There is no specific data available in relation to avoidance of significant effects and cumulative effects on ancestral lands, water and waahi tapu sites, however these aspects are regularly assessed through the consent application processes. Data on successful site remediation</p>



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<ul style="list-style-type: none"> b. do not have adverse effects on water quality or aquatic ecosystems that are inconsistent with the water management objectives in Section 3.1.2 c. there are no adverse effects on air quality that are inconsistent with air quality objectives in Section 6.1.2 d. avoid significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu e. remedy or mitigate cumulative adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu. 	<p>contaminated land as a result of land remediation.</p>	<p>Properties listed on the Land Use Information Register are assigned a site category depending on how much is known about the site.</p> <p>Case studies produced by the council on the outcomes of site remediation show that monitoring of water, air and soil quality are part of the remediation process and that these large scale clean up have been successful.</p>	<p>process indicates that the policy framework is likely effective in relation to achieving objective 5.3.2d and e.</p> <p>Overall, the Regional Plan policy framework is considered highly effective in achieving the objectives and environmental results anticipated for discharges of contaminants from contaminated land.</p>



4.3. Topic 4: Rivers and Lake Beds

4.4.1. Analysis of Effectiveness

The following table evaluates the effectiveness of the policy framework in achieving the environmental outcomes anticipated relating to the region’s river and lake beds.

Table 6: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p><u>River and Lake Bed Structures</u></p> <p>Objective 4.2.2 – The use, erection, reconstruction, placement, alteration, extension, removal or demolition of structures in, on, under or over the beds of rivers and lakes managed in a manner that:</p> <ul style="list-style-type: none"> a. produces a net reduction in the adverse effects of the destabilisation of river and lake beds. b. does not have adverse effects on water quality, flow regimes, aquatic ecosystems and wetlands that are inconsistent with Water Management Objective 3.1.2. c. does not obstruct fish passage for trout and indigenous fish to complete their life cycle d. preserves the natural character of river and lake beds and their margins and protects them from inappropriate use and development. 	<p><u>River and Lake Bed Structures</u></p> <ol style="list-style-type: none"> 1. Improved water quality and aquatic habitats as a result of more stable river and lake beds. 2. Improved fish passage both upstream and downstream. 3. A reduction in river and lake beds adversely affected by bank erosion and bed instability. 4. Structures that are unsafe for people, or present obstruction to navigation and cause other adverse effects removed. 5. Increased use of culverts, bridges and constructed crossings as an alternative to 	<p>SoE report states:</p> <p><i>Beyond rules to ensure new structures provide native fish passage, we recommend the council identifies existing structures that are potential barriers and prioritise these for remediation.</i></p> <p><i>It is recommended that addressing migration barriers goes beyond regulating new structures to prioritising remediation of existing structures. Such prioritisation could also help inform decisions on operation, maintenance and cost (for example, structure replacement versus a mussel spat rope).</i></p> <p>The report does not identify any other significant issues with this area of the Regional Plan.</p>	<p>The policy framework for managing new structures is regarded as effective in relation to achieving some aspects of Objective 4.2.2.</p> <p>The SoE report notes that there are some improvements that could be made to the Regional Plan in relation to the management of existing structures including identifying and remediation of existing structures. Staff have also noted that there are a range of historic structures in lakes around the regional that are not formally recorded (or consented) by Council.</p> <p>As the above recommended improvements not currently part of the Regional Plan policy framework, they have not taken account into account in relation to this effectiveness assessment.</p>



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<ul style="list-style-type: none"> e. there is no increase in the adverse effects of flooding. f. provides for navigation of water bodies where appropriate. g. remedies or mitigates adverse effects of existing structures on the relationship tangata whenua as kaitiaki have with identified taonga, such as waahi tapu, native flora and fauna and access to their customary fisheries. h. avoids significant adverse effects of new structures on the relationship tangata whenua as kaitiaki have with identified taonga, such as waahi tapu, native flora and fauna and access to their customary fisheries. i. remedies or mitigates cumulative adverse effects on the relationship tangata whenua as kaitiaki have with their identified taonga, such as waahi tapu, native flora and fauna and access to their customary fisheries. j. maintains existing legal public access to and along river and lake beds and their margins. k. Refer to Objective 3.A.1. 	<p>unfettered stock access to river and lake beds.</p>		<p>There is limited data available to confirm whether 4.2.2a, b, d to f, h and j are being met, nor is there data available to indicate otherwise.</p> <p>The findings of the SoE monitoring in relation to obstructions to fish passage indicate that 4.2.2g and i are not being met.</p> <p>Overall, therefore, the Regional Plan policy framework is considered moderately effective in achieving the objectives and environmental results anticipated for management of structures in lakes and river beds.</p>
<p><u>River and Lake Bed Disturbances</u></p> <p>Objective 4.3.2 Physical alteration to the beds or banks of waterways, the deliberate introduction of</p>	<p><u>River and Lake Bed Disturbances</u></p> <p>1. Minimal adverse effects of sand and gravel extraction</p>	<p><u>State of Environment Monitoring</u></p> <p>The council started quantifying the proportion of riparian fencing in the region in 2002, and updates this figure every five years. The proportion of fenced bank length of</p>	<p>SoE monitoring indicates that access of livestock to the banks and beds of lakes and rivers has decreased overtime.</p> <p>However, issues with wetland loss and health and pest plant spread continue to be</p>



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p>vegetation to the beds or banks of rivers or lakes, the destruction or removal of vegetation from the beds and banks of rivers and lakes, and the access of livestock to the banks and beds of rivers and lakes managed so that:</p> <ol style="list-style-type: none"> a. loss of adjacent land is avoided. b. adverse effects on aquatic habitat, downstream water uses and on the passage of trout and indigenous fish of elevated suspended solids and temperature levels in surface water bodies are not inconsistent with objectives in Chapter 3.1 c. accelerated infilling of estuaries, harbours and wetlands that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna is avoided, excluding structures designed to trap sediment. d. bank stability and channel stability is maintained. e. there is no increase in the adverse effects of flooding. f. significant adverse effects on the relationship tangata whenua as kaitiaki have with their identified taonga such as waahi tapu, native flora and fauna and access to their customary fisheries are avoided. g. cumulative adverse effects on the relationship tangata whenua as kaitiaki have with their identified taonga such as waahi tapu, native flora and fauna and access to 	<p>exceeding natural replenishment.</p> <ol style="list-style-type: none"> 2. Improved water quality and aquatic habitats as a result of more stable river and lake beds. 3. A reduction in river and lake beds adversely affected by bank erosion and bed instability. 4. Increased plantings of indigenous plant species on the beds and banks of rivers and lakes. 5. Reduction in area and species of aquatic plant pests in the Region. 6. Increasing lengths of water bodies fenced to prevent livestock access to the beds of rivers and lakes. 7. Increased use of culverts, bridges and constructed crossings as an alternative to unrestricted livestock access to river and lake beds. 	<p>waterways in pastoral land increased from 28 per cent to 61 per cent between 2002 and 2017. However, the amount of woody riparian vegetation did not change significantly over the same timeframe.</p> <p>Land use related activities were the major cause of soil disturbance at 21 per cent of the points surveyed in 2017. In particular, farm and forestry tracks were the dominant disturbance feature, and also made up 68 per cent of land use disturbance observed in the region.</p> <p>Dairy and drystock farm tracks and laneways are of particular concern. They provide a potential sediment source, as well as a transport mechanism for nutrient and faecal material from critical source areas to enter waterways. On dairy farms, the tracks and laneways made up 77 per cent of bare soil, compared with 37 per cent on drystock farms. Aerial surveys have observed (completed between 2007 and 2017), a decrease in the percentage of stable land (no evidence of erosion), an increase in unstable surfaces (erosion prone, inactive) and a decrease in surfaces that were recently or currently eroding.</p>	<p>recorded through environmental monitoring data.</p> <p>SoE monitoring demonstrates that Objective 4.3.2b to l are not being met. Environmental results are not being achieved in relation to improved water quality, increased planting of indigenous species, pest plants.</p> <p>Anticipated results are being achieved for fencing and the management of sand and gravel extraction.</p> <p>There is a lack of available data on whether the plan is meeting Objective 4.3.2a, m and n.</p> <p>Overall, therefore, the Regional Plan policy framework is not effective at achieving the objectives and environmental results anticipated for management alterations to river and lake beds.</p>



Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p>their customary fisheries are remedied or mitigated.</p> <ul style="list-style-type: none"> h. significant adverse effects on the natural character of the margins of wetlands, lakes and rivers are avoided. i. there is no introduction of any plant pest identified in the Waikato Regional Pest Management Strategy. j. competition by introduced vegetation to existent desirable plant species is avoided. k. obstruction of river channels by introduced vegetation is avoided. l. Faecal contamination does not have adverse effects that are inconsistent with objectives in Chapter 3.1. m. damage to lawfully established structures and drainage districts and river control scheme areas is avoided. n. existing legal public access to and along river and lake beds and their margins is maintained, where appropriate. o. Refer to Objective 3.A.1. 		<p>Aquatic plant pests continue to be an issues across the Waikato and there has been no discreateable reduction in area or species.</p> <p>Modifications to waterways through damming, irrigation, draining of wetlands and the pollution of fresh water and salt water have significantly impacted iwi and hapū. Flooding of wāhi tapu, reduction in water quality, impacts on mahinga kai and taonga species, detrimental impacts on mauri and interruptions to water-based rituals are impacts felt across generations.</p> <p>Wetlands and forest continue to be subject to development pressure. The gains from planting native trees have been countered by clearance of indigenous scrub and shrubland elsewhere.</p> <p>The remaining area of freshwater wetland was 33,268 hectares in 2018.</p>	



4.5. Topic 5: Water Quality and Quantity

4.5.1. Analysis of Effectiveness

The policy framework for the Water Module differs from the other chapters/modules in the Regional Plan. It is noted that the policy regime relating to water resources in section 3.1 and 3.2 are applied throughout other sections of the Water Module and are also relevant to other chapters that directly or indirectly affect water bodies. Furthermore, the policy regime for the allocation of water resources spans over sections 3.3 and 3.4. Overall, the Water Module split into the following subtopics:

1. Water Resources - comprising sections 3.1 Water Resources and 3.2 Management of Water Resources
2. Diversions
3. Non-point Source Discharges
4. Point Source Discharges - comprising sections 3.5 Discharges and 3.8 Drilling
5. Lake Taupo Catchment
6. Water Allocation - comprising sections 3.3 Water Takes and 3.4 Efficient use of Water
7. Wetland Clearance/Drainage

Rather than complete an assessment for each subtopic, the environmental outcomes for each subtopic have been compiled together and assessed under the Water Resources heading. Only the Lake Taupo Catchment subtopic has been assessed separately.



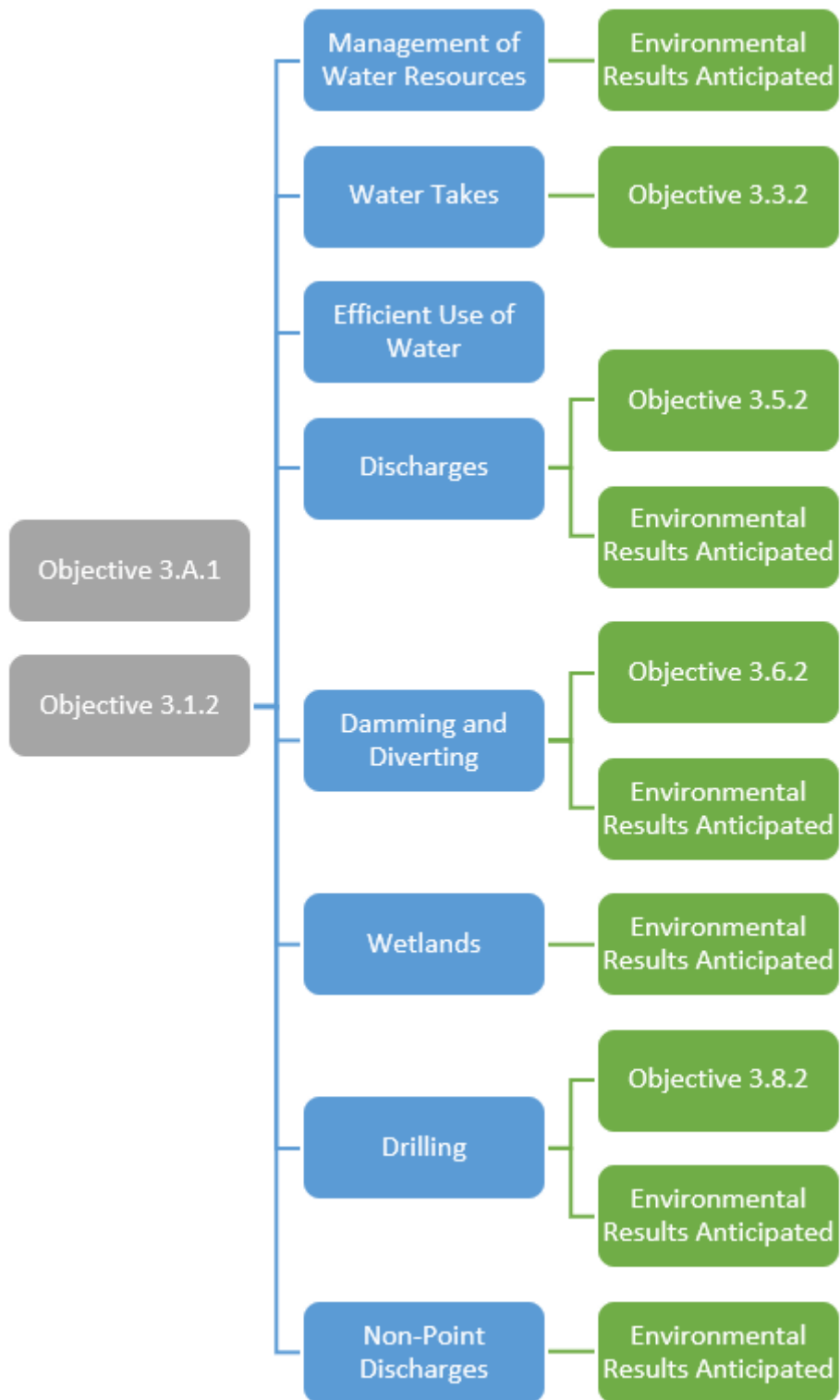


Figure 2: Structural overview of the Water Module



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>Objective 3.1.2 The management of water bodies in a way which ensures:</p> <ol style="list-style-type: none"> that people are able to take and use water for their social, economic and cultural wellbeing. net improvement of water quality across the Region. the avoidance of significant adverse effects on aquatic ecosystems. the characteristics of flow regimes are enhanced where practicable and justified by the ecological benefits. the range of uses of water reliant on the characteristics of flow regimes are maintained or enhanced. the range of reasonably foreseeable uses of ground water and surface water are protected. inefficient use of the available ground surface water resources is minimised. an increase in the extent and quality of the Region's wetlands. that significant adverse effects on the relationship tangata whenua 	<p><u>Management of Water Resources</u></p> <ol style="list-style-type: none"> Net improvement in regional water quality. Areas of significant indigenous fisheries habitat maintained and enhanced. Areas of trout fisheries and spawning habitat maintained and enhanced. Qualities of Natural State Waters are protected. Suitability of surface water for contact recreation maintained and enhanced. Suitability of water for human consumption maintained and improved. <p><u>Wetlands</u></p> <ol style="list-style-type: none"> No further loss or degradation of areas of significant wetlands. Wetland areas protected and enhanced. <p><u>Non-Point Source Discharge</u></p>	<p>Key conclusions for Council's monitoring data relating to water resources are as follows:</p> <p><i>River water quality for contact recreation is good in some parts of the region (for example, the upper Waikato River, tributaries of Lake Taupō, and in the Coromandel). In the lowland areas, river water quality is not so good (for example, Hauraki and the lowland tributaries of the Waikato River).</i></p> <p><i>Nitrogen loads from non-point sources are high, particularly in the intensively farmed Waihou, Waitoa and Piako River catchments. The loads tend to be highest in areas of intensive dairy farming.</i></p> <p><i>Most lakes within the region fail to meet national bottom-line standards for compulsory attributes in the NPS-FM. However, there have been recent signs of improvement for several lakes. Furthermore, many streams of the Waikato region are</i></p>	<p>Based on monitoring data, river water quality for contact recreation is good in some parts of the region. However, there is growing concerns over water security as a result of climate change and increasing demand. As a result, the Regional Plan is considered to be achieving Objective 3.1.2a, but there is increasing pressure on the region's water resources that, if not address or appropriately managed under the Regional Plan, will have adverse effects on people's ability to take and use water.</p> <p>Whilst most waterbodies within the region are failing to meet national bottom lines, there has been some improvements in some attributes as well as in overall water quality for some lakes in the region. As a result, it is considered that net water quality across the region has not improved, therefore, Objective 3.1.2b is not currently being met, but it is considered that the policy framework is making progress towards achieving this objective.</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>as Kaitiaki have with water and their identified taonga such as waahi tapu, and native flora and fauna that have customary and traditional uses in or on the margins of water bodies, are remedied or mitigated.</p> <p>j. the cumulative adverse effects on the relationship tangata whenua as Kaitiaki have with water their identified taonga such as waahi tapu, and native flora and fauna that have customary and traditional uses that are in or on the margins of water bodies are remedied or mitigated.</p> <p>k. the management of non-point source discharges of nutrients, faecal coliforms and sediment to levels that are consistent with the identified purpose and values for which the water body is being managed.</p> <p>l. the natural character of the coastal environment, wetlands and lakes and rivers and their margins (including caves), is preserved and protected from inappropriate use and development.</p> <p>m. ground water quality is maintained or enhanced and</p>	<ol style="list-style-type: none"> 1. Net improvement in ground water and surface water quality across the Region. 2. Net increase in riparian and streamside management areas in the Region. 3. Reduction in sediment yields from bed and bank instability. 4. Ground water protected for drinking water purposes. 5. Uses and values identified by the Water Management Classes are protected. 	<p><i>failing to meet national bottom lines for ecosystem health.</i></p> <p><i>There has been some improvements observed in rivers between 1990 and 2020, particularly with phosphorus and chlorophyll. This has been attributed to reductions in phosphorus inputs from wastewater and better management of agricultural soils. However, both sediment and bacteria remain at high levels in many rives. There has been no real decline in these parameters over time.</i></p> <p><i>The Trophic Level Index (which combines several NPS-FM attributes) has improved over the last three years for six of the 12 lakes with long term monitoring data.</i></p> <p><i>Between 1996 and 2012 there was very little recorded loss of freshwater wetland with just a 7 hectare loss of wetlands of Deciduous Hardwoods and net 7 hectare loss of Herbaceous Freshwater Vegetation.</i></p> <p><i>The primary issue in respect to manageable groundwater quality is nitrate contamination. Nitrate commonly exceeds the drinking water guideline, with median</i></p>	<p>Many streams of the Waikato region are failing to meet national bottom lines for ecosystem health, therefore, it can be concluded that the Regional Plan is not meeting Objective 3.1.2c.</p> <p>There is limited data on flow records to determine whether Objective 3.1.2d – g are being achieved.</p> <p>Whilst it is recognised that there has not been a significant decrease in the extent in freshwater wetlands, there has been no actual increase in freshwater wetland extent and therefore Objective 3.1.2h has not been met.</p> <p>It is acknowledged that modifications to waterways through damming, irrigation, draining of wetlands and the pollution of fresh water and salt water have significantly impacted iwi and hapū. However, there is limited data to determine whether the Regional Plan has enabled the remediation or mitigation of these impacts and, subsequently, tangata whenua’s relationship with water bodies that hold cultural significance. As a result, it is unknown whether Objective 3.1.2i – j is being met.</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>ground water takes managed to ensure sustainable yield.</p> <p>n. shallow ground water takes do not adversely affect values for which any potentially affected surface water body is managed.</p> <p>o. concentrations of contaminants leaching from land use activities and non-point source discharges to shallow ground water and surface waters do not reach levels that present significant risks to human health or aquatic ecosystems.</p> <p>p. that the positive effects of water resource use activities and associated existing lawfully established infrastructure are recognised, whilst avoiding, remedying or mitigating adverse effects on the environment.</p> <p>q. Refer to Objective 3.A.1.</p>		<p><i>concentrations being over the maximum acceptable value at 11% of the SOE monitoring network sites.</i></p> <p><i>Other anthropogenic contaminants of concern include pesticides and emerging organic contaminants (EOCs). Data from 2020 shows pesticides detected at 22.5% of SOE wells with 2.5% being in excess of the drinking water guidelines. EOCs were detected at 91% of SOE sites sampled and many of these have no guideline values.</i></p> <p><i>Wetlands and forest continue to be subject to development pressure with extensive clearance of indigenous forest. Nutrient inputs are a concern for the Whangamarino and Kopuatai wetlands.</i></p> <p><i>Despite the region’s growing population generating more wastewater, the load of contaminants to rivers from large point source discharges has decreased. Hamilton’s discharge of phosphorus to the Waikato River has reduced over the last 20 years.</i></p> <p><i>Modifications to waterways through damming, irrigation, draining of wetlands and the pollution of fresh water and salt</i></p>	<p>Reporting indicates that nitrogen loads from non-point source discharges are high. Whether these levels are consistent with the identified purpose and values of waterbodies that are to be managed by the Regional Plan is unknown. Overall, it can be concluded that there has not been a net improvement in groundwater and surface water quality across the region, therefore, it is considered that the policy framework has not met Objective 3.1.2k.</p> <p>Many waterbodies within the region are failing to meet bottom lines for water quality attributes, although it is acknowledged that there has been some improvements made towards achieving bottom lines. Furthermore, wetlands continue to be subject to development pressures and nutrient inputs. Based on these results, the Regional Plan does not currently meet Objective 3.1.2l but is making progress towards meeting this objective.</p> <p>There is limited available information on groundwater takes, however, groundwater quality monitoring suggests that contamination from nitrates, pesticides and</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
		<p><i>water have significantly impacted iwi and hapū.</i></p>	<p>emerging organic contaminants, largely linked to land use activities, are of concern. As a result, it is concluded that the Regional Plan is not achieving Objective 3.1.2m – n.</p> <p>Reporting indicates that nitrogen loads from non-point source discharges are high. The risk to human health or aquatic ecosystems, as well as whether these levels are consistent with the identified purpose and values of waterbodies that are to be managed by the Regional Plan is unknown. As a result, there is insufficient information to determine whether the Regional Plan has achieved Objective 3.1.2o. Additionally, there is insufficient information available to determine whether Objective 3.1.2p and q has been met.</p> <p>Overall, whilst there is limited data to make a complete evaluation of whether the Regional Plan is achieving Objective 3.1.2, there are a high percentage of points that are not being met. As a result, it is considered that the policy framework relating to water resources has been assessed as not effective in achieving Objective 3.1.2.</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>Objective 3.3.2 – Water Takes</p> <ul style="list-style-type: none"> a. Giving effect to the overarching purpose of the Vision and Strategy to restore and protect the health and wellbeing of the Waikato River for present and future generations. b. The availability of water to meet the existing and the reasonably justified and foreseeable future domestic or municipal supply requirements of individuals and communities and the reasonable needs for an individual’s animal drinking water requirements. c. The recognition of the <u>significant</u> community benefits that derive from domestic or municipal supply takes. d. The efficient allocation and the efficient use of water. e. No further allocation of water that exceeds the primary allocation in Table 3-5 that reduces the generation of electricity from renewable energy sources. f. The recognition that existing water takes contribute to social and economic wellbeing and in some cases significant investment relies on the continuation of those takes, including rural-based activities such as agriculture, perishable food processing and industry. g. The continued availability of water for cooling of the Huntly Power Station. 	<p>There are no environment results anticipated for this objective</p>	<p>The Waikato SoE report notes that following trends in relation to water takes in the region:</p> <p><i>Climate change and increased water use have contributed to lower river flows. The marked decline in rainfall and river flows over the last 25 years has critically impacted people and ecosystems.</i></p> <p><i>Many farmers have invested in irrigation to see them through dry periods, and water takes for irrigation have increased over the last 30 years. Water takes from the Waikato River have also increased to support population growth in Hamilton and Auckland.</i></p> <p><i>The Piako and Whangamarino catchments have very high allocation pressure. The Mōkau, Waihou and Mangawara catchments have low allocation pressure.</i></p> <p>The Waikato SoE report notes that the increase in demand coupled with climate change has increased water security issues for the region and recommends the following:</p>	<p>Based on monitoring data, it could be suggested that the Regional Plan is achieving Objective 3.3.2a, however, water security issues, and subsequent social and environmental impacts, highlighted by SoE reporting indicates that the Regional Plan is not effective in achieving objective 3.3.2b – d, h and j.</p> <p>There is limited data on the impacts on high allocation pressures on renewable energy sources. As a result, Objective 3.3.2e cannot be evaluated. Additionally, there is limited data to evaluate Objective 3.3.2f – g.</p> <p>Overall, the policy framework relating to water takes has been assessed as not effective in achieving Objective 3.3.2.</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<ul style="list-style-type: none"> h. Sufficient water is retained instream to safeguard the life supporting capacity of freshwater, including its ecosystem processes and indigenous species and their associated ecosystems. i. That decisions regarding the allocation and use of water take account of the need to avoid the further degradation of water quality, having regard to the contaminant assimilative capacity of water bodies. j. Subject to Objectives a) to h) above, the availability of water to meet other future social, economic and cultural needs of individuals and communities (including rural-based activities such as agriculture, perishable food processing and industry). k. Refer to Objective 3.A.1. 		<p><i>Recognise a growing water availability deficit for the Waikato region by improving water use efficiency, investigating storage options and improving ecosystem resilience to low flow periods.</i></p> <p>The Waikato River Authority uses environmental monitoring data to report on progress toward Te Ture Whaimana o te Awa o Waikato – Vision and Strategy for the Waikato River and summarises it in report cards. The latest 2016 report card concludes that we are on track towards meeting the aspirational objectives of the Vision and Strategy, Ture Whaimana o Te Awa o Waikato.</p>	



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>Objective 3.5.2 - Discharges Discharges of contaminants to water undertaken in a manner that:</p> <ol style="list-style-type: none"> does not have adverse effects that are inconsistent with the water management objectives in Section 3.1.2 does not have adverse effects that are inconsistent with the discharges onto or into land objectives in Section 5.2.2 Ensures that decisions regarding the discharge of contaminants to water do not reduce the contaminant assimilative capacity of the water body to the extent that allocable flows as provided for in Chapter 3.3 are unable to be utilised for out of stream uses. 	<ol style="list-style-type: none"> A reduction in the number of treated effluent discharges to surface waters and an increase in those utilising land-based treatment systems. Improved water quality as a result of reduced point source discharges to surface waters. More recycling of effluent and minimisation of farm nutrient loss. Avoidance of contamination of ground water by on-site sewage discharges in new areas. Reduced incidence of ‘public health’ issues associated with on-site sewage disposal. Uses and values identified by the Water Management Classes protected. The quality of stormwater discharges improved. A trend toward land-based disposal of stormwater. 	<p>Council monitoring has indicated the following:</p> <ul style="list-style-type: none"> Nitrogen loads from point sources are low in the four major Waikato rivers and are similar to background levels. During 2000 - 2009, the point source load of phosphorus to the Waitoa River was particularly high. In 2009, the load fell to about one-quarter of pre-2009 levels because of changes in wastewater management at a site on the river. nitrogen loads from non-point sources are high, particularly in the intensively farmed Waihou, Waitoa and Piako River catchments. The loads tend to be highest in areas of intensive dairy farming. 	<p>An evaluation of Objective 3.1.2 has been made in above, which has concluded that the policy framework has not been effective in meeting the objective. Whilst it is acknowledged there has been improvements in point source discharge, non-point discharges still remain high. As a result, it is considered that the policy framework has not met Objective 3.5.2a – b.</p> <p>There is limited data available to be able to make correlations between discharges and contaminant assimilative capacity, therefore, Objective 3.5.2c cannot be assessed.</p> <p>Overall, the policy framework relating to discharges has been assessed as not effective in achieving Objective 3.5.2.</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>Objective 3.6.2 – Damming and Diverting</p> <p>Damming and/or diverting of water undertaken in a manner that:</p> <ul style="list-style-type: none"> a. Does not have adverse effects that are inconsistent with the water management objectives in Section 3.1.2. b. Does not have adverse effects that are inconsistent with the river and lake bed structures objectives in Section 4.2.2. c. Does not obstruct fish passage where it would otherwise occur in the absence of unnatural barriers, so that trout or indigenous fish can complete their lifecycle. d. Results in no increase in the adverse effects of flooding or land instability hazards. e. Results in no loss of existing aquatic habitats as a consequence of channelisation of rivers. f. Increases the use of off-stream dams for water supply purposes as an alternative to dams in perennial streams. g. ensures that decisions regarding the damming and diverting of water take account of the consequent loss of water quality and any associated reduction in 	<ol style="list-style-type: none"> 1. An increase in the use of off-stream dams and dams in ephemeral water bodies for water supplies/water harvesting and establishment of wetland areas. 2. The uses and values of water identified in the Water Management Classes in the Water Management Class Maps maintained. 3. Provision for tangata whenua values regarding the diversion and mixing of waters. 4. Fewer new dams on perennial water bodies. 5. Continuous fish passage along streams and rivers classified for Indigenous Fisheries where it would otherwise occur in the absence of unnatural barriers. 	<p>SoE report states:</p> <p><i>Beyond rules to ensure new structures provide native fish passage, we recommend the council identifies existing structures that are potential barriers and prioritise these for remediation.</i></p> <p><i>It is recommended that addressing migration barriers goes beyond regulating new structures to prioritising remediation of existing structures. Such prioritisation could also help inform decisions on operation, maintenance and cost (for example, structure replacement versus a mussel spat rope).</i></p> <p>The report does not identify any other significant issues with this area of the Regional Plan.</p>	<p>An evaluation of Objective 3.1.2 has been made in above, which has concluded that the policy framework has not been effective in meeting the objective. However, there is limited data available to determine whether damming and diverting activities are contributing to the ineffectiveness of the water resources policy framework. As a result, Objective 3.6.2a cannot be evaluated.</p> <p>Additionally, there is limited data to determine whether damming and diverting activities are increasing flooding or land stability hazards or decreasing water quality. As a result, Objective 3.6.2d – e cannot be evaluated.</p> <p>The findings of the SoE monitoring in relation to obstructions to fish passage indicate that Objective 3.6.2b, c and h are not being met.</p> <p>There is no data available on off-stream dams to be able to evaluate Objective 3.6.2f.</p> <p>Overall, there is limited data available to determine whether the policy framework</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>contaminant assimilative capacity, minimum flows and allocable flows for out of stream uses as provided by Section 3.3.3 Policy 1 and Table 3-5 of Chapter 3.3.</p> <p>h. Refer to Objective 3.A.1.</p>			<p>has been effective in achieving Objective 3.6.2.</p>



Table 7: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Results and Trends	Assessment of the policy framework
<p>Objective 3.8.2 Drilling activities undertaken in a manner that:</p> <ul style="list-style-type: none"> a. is consistent with the objectives in Section 3.1.2, b. is consistent with the objectives in section 5.2.2, c. prevents significant adverse effects from the mixing of previously isolated aquifers, d. does not result in significant adverse effects from a loss of aquifer pressure/level, e. is consistent with the objectives in Section 7.2.2, f. does not result in blow-outs in geothermal wells. 	<ul style="list-style-type: none"> 1. Drilling activities undertaken without causing significant adverse effects on water and soil quality, aquatic flora and fauna, and other water users. 2. Drilling and well construction undertaken such that uncontrolled leakage of ground water and geothermal fluid to the surface or between ground water bodies is avoided. 3. Well head completion effective in the prevention of preferential entry of contaminants from the surface. 4. No blow-outs in geothermal wells. 	<p>There is currently no monitoring data available on drilling activities within the region.</p>	<p>There is currently limited data available on drilling activities in the region to be able to evaluate Objective 3.8.2.</p>



4.5.1.1. Lake Taupo Catchment

The following table evaluates the effectiveness of the policy framework in achieving the environmental outcomes anticipated relating to the Lake Taupo Catchment.

Table 8: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of policies/rules/methods
<p>Objective 1: Maintenance of the current water quality of Lake Taupo - The effects of nutrient discharges in the catchment are mitigated such that by 2080 the water quality of Lake Taupo is restored to its 2001 levels.</p> <p>Objective 2: Effect on Lake Taupo water quality from land use activities - Land use activities which result in nitrogen leaching, particularly farming, are managed to facilitate the restoration of the water quality characteristics of Lake Taupo to their 2001 levels.</p> <p>Objective 3: Avoidance of near-shore effects from wastewater - No greater concentrations of domestic wastewater nitrogen or pathogens in shallow near-shore waters of Lake Taupo in the vicinity of wastewater treatment and disposal systems.</p> <p>Objective 4: Economic costs minimised and social and cultural effects mitigated -</p>	<ol style="list-style-type: none"> 1. By 2080, indicators of Lake Taupo water quality are at 2001 levels 2. Reduction in nutrient influenced weeds and algae in shallow near-shore water in Lake Taupo 3. By 2011, no domestic wastewater pathogens detected in shallow near-shore water in Lake Taupo 4. No long-term adverse effects on the social and economic wellbeing of Lake Taupo communities as a result of nitrogen leaching controls. 	<p><u>State of Environment Monitoring Data</u> Lake Taupō’s water quality for ecological health is generally satisfactory to excellent and achieving water quality targets ahead of schedule. This is largely due to the nitrogen cap and trade scheme implemented in 2011 under variation 5.</p> <p>An economic assessment completed in 2019 assessed the financial impact of the nitrogen cap of Taupo farms. Some key findings are:</p> <ul style="list-style-type: none"> • From farmer discussions it would appear that some farmers are handling the new environment well, while others are struggling, largely dependent on their knowledge and understanding of the impacts of the nitrogen cap at the time, which is perhaps a reflection of any cross section of the community. • There has been an increase in compliance costs for the catchment farmer. This cost is exacerbated for the Māori farming entities 	<p>Monitoring data indicates that the regional plan is on track to achieve the environmental outcomes relating to the Taupo catchment.</p> <p>Early monitoring of the economic effects of the provisions indicates that there has been some adverse economic effects on farming operations in the Taupo catchment. Furthermore, there is currently limited data to determine the long-term economic impacts. This is also likely the case for social effects.</p> <p>Overall, the Regional Plan policy framework is considered highly effective in achieving the objectives and environmental results anticipated in relation to maintaining the water quality of Lake Taupo.</p>



<p>Economic costs of managing land use activities to achieve Objective 1 are minimised, and spread across local, regional and national communities. Social and cultural effects of managing land use activities to achieve Objective 1 are mitigated.</p>		<ul style="list-style-type: none"> • Farms within the catchment are selling at 7-14% less (depending on size and type) than similar farms outside of the catchment • There is insufficient evidence to determine whether the nitrogen cap is exacerbating the cost/price squeeze, that has affected NZ farming for many decades, within the Taupo catchment • An estimated 10,000 hectares of current pasture land could be converted into dairying. The opportunity cost of not being able to do this, as a Present Value, is \$69.4 million. • Any conversion into a pastoral system mostly results in a negative figure, hence no opportunity cost. • The opportunity cost of not being able to intensify the existing farming operation, as a Present Value, is \$144 million 	
---	--	--	--



4.6. Topic 6: Matters of Significance to Māori

This topic addresses resource management issues identified as being of concern to Māori in the Region. In many instances, the environmental outcomes sought by both Māori and non-Māori are common and therefore and to this extent, the Plan, will promote many of the environmental results sought by Māori. In other respects, Māori have perspectives and values which are specific to their particular tribal group and which need to be considered as part of resource management policy and decision-making.

This topic largely focuses on establishing processes, protocols and understandings through which tangata whenua involvement in resource management will be facilitated. 'Content' matters, such as building in the environmental outcomes sought by tangata whenua, are incorporated throughout the whole of the Regional Plan. As a result, the effectiveness of the environmental outcomes sought by tangata whenua have been evaluated under the relevant regional plan topics. The following table evaluates the effectiveness of the policy framework in achieving the environmental outcomes anticipated relating to the facilitation of tangata whenua's involvement in resource management.

4.6.1. Analysis of Effectiveness



Table 9: Analysis of Effectiveness

Objectives	Environmental Results Anticipated	Monitoring Trends and Results	Assessment of the policy framework
<p>Objective 2.3.2</p> <ol style="list-style-type: none"> 1. Uncertainty for all parties regarding the relationship between tangata whenua and resources for which they are Kaitiaki minimised. 2. Tangata whenua able to give effect to kaitiakitanga 	<ol style="list-style-type: none"> 1. Waikato Regional Council and <u>tangata whenua</u> working together to collect and disseminate information regarding the Region’s natural and physical resources for which tangata whenua is Kaitiaki. 2. Increased number of iwi management plans completed and available to the public. 3. Increased awareness of the need for consultation and the process by which this can occur. 4. Tangata whenua able to give effect to kaitiakitanga. 	<p>Council is actively working towards applying the principles of partnership and collaboration in decision making with their Treaty partners. This requires both the council and iwi to agree on their partnering destinations and shared points of convergence along the way.</p> <p>The development of Kaupapa Māori Freshwater Assessments (2019) outlined a number of tools that would enable the integration of Mātauranga Māori into monitoring as well as matters that iwi and hapū considered important around the freshwater environment. It is noted that, seven kaupapa Māori assessment tools were being used within the Waikato region at the time the report was written.</p> <p>Furthermore, there has been an increase on IEMPs developed and made publicly available on the Council website.</p>	<p>It is considered that the development of guidance around the integration of Mātauranga Māori into Council monitoring in addition to IEMPs will assist in providing clarity on the relationship between tangata whenua and resources for which they hold kaitiakitanga over as well as support the ability of tangata whenua to give effect to kaitiakitanga. As a result, it is considered that the Regional Plan does not currently fully achieve Objective 2.3.2, but is making progress towards achieving this objective. The data indicates that ERAs are being achieved, however, there is limited correlation between the ERAs and the Objective 2.3.2.</p> <p>Overall, therefore, the Regional Plan policy framework is considered moderately effective in achieving the objectives and environmental results anticipated for Matters of Significance to Maori.</p>



4.7 Summary of Effectiveness Evaluation

Based on the evaluation completed in tables 3 – 9 above, the Regional Plan is assessed to be:

- highly effective in achieving the objectives and environmental results anticipated for the region’s air resources and the Lake Taupo catchment modules.
- moderately effective in achieving the objectives and environmental results anticipated for the region’s geothermal, land and soil resources, river and lake bed modules.
- not effective in achieving the objectives and environmental results anticipated for the region’s water resources module.

Overall, the Regional Plan has been evaluated as being moderately effective in achieving the objectives and environmental results anticipated for the region’s resources that are managed under the Regional Plan

5. Efficiency of the Plan

5.4. Cost of the Plan

Efficiency is a measure of the benefit of a policy relative to its cost. The most efficient policy is a policy that achieves a given level of benefit for the least cost, or conversely, the most benefit for a given amount of cost.

The efficiency of a policy can be interpreted as the value for money that it represents in terms of costs (for the Council and the community), the ease of administration (which links to cost), and the speed or ability to achieve an environmental outcome.

Costs for the implementation of the Regional Plan generally fall into three categories:

- **Administration costs** that fall on the Regional Council (policy development/changes, monitoring, assessing and issuing consents/permits, compliance monitoring and enforcement);
- **Compliance costs** that fall on applicants (costs associated with applying for and complying with consents/permits, physical works and equipment required to comply with consent conditions); and
- **‘Broader economic costs’** which may result from regulation. These involve costs associated with constrained production through limits on scale, discharge or similar, and other constraints on development imposed by either Plan provisions or consent conditions. The level at which industries or activities have been able to establish or expand is one measure of whether the economic costs or economic constraints imposed by the Regional Plan have been too onerous.

Each of these components of efficiency is evaluated as follows using consent/permit data reported by the Council to the Ministry for the Environment.



5.4.1. Administration Costs

The Council's resource consent system is based on the principle of 'user pays'. As a result, the Council seeks to recover most costs associated with resource consent processing and consent monitoring and compliance from applicants and consent/permit holders.

Other costs incurred by the Council in administering the Plan include the following:

- Following up unauthorised incidents within the Regional Plan jurisdiction
- Monitoring of the state of the environment.
- Providing information and advice on regulatory matters.

Policy development in relation to the Regional Plan is an activity where the greatest amount of time is spent and is not cost-recoverable. This is important work in terms of advocacy to other agencies, as well as undertaking research or policy papers to support the implementation of the Plan. The following plan changes have been made since the Regional Plan was notified:

- Variation No. 2 – Geothermal Module (made operative on 7 November 2008);
- Variation No. 5 – Lake Taupo catchment (made operative on 7 July 2011)
- Variation No. 6 – Water Allocation (made operative on 10 April 2012)
- Variation No. 7 – Minor Variation and Geothermal Maps (made operative on 8 December 2010)
- Proposed Plan Change 1 – Waikato and Waipā River Catchments (initiated in 2012 – ongoing)
- Plan Change 2 – Taupo Overseer Version (2020)
- National Policy Statement for Freshwater Management 2020 – insert clauses 3.22(1) natural inland wetlands, 3.24(1) rivers and 3.26(1) fish passage of the NPSFM 2020 resulting in new Objective 3.A.1, and Policies 3.A.2, 3.A.3 (June 2021).

Many of the above variations and changes consisted of lengthy process times and demanded a high volume of Council resources, thus contributing to high expenditure by Council. Community costs are also high for these processes. Of the above variations and changes only Plan Change 1 has been costed in any detail. This project had a \$16.8 million budget. At the end of June 2017, the project had cost \$16.234m over five years, which was made up of direct costs (\$5.5m), staff labour costs (\$4.530m) and corporate overheads (\$6.198m).

Using this single example, the Council's costs in administering the Regional Plan could be considered moderate to high, but the sample size is not large enough to draw any reasonable conclusion in relation to this. Even if costs are high this does not necessarily indicate that the Council's administration of the Plan is inefficient.

5.4.2. Costs incurred by consent applicants and consent holders

5.4.2.1. Costs of obtaining a consent

The RMA restricts activities from occurring within the Waikato Region (excluding the Coastal Marine Area) unless authorised by a resource consent/ permit. The Regional Plan permits a number of minor



activities that would otherwise be restricted by the RMA thus removing the requirement for a consent/permit, and so reducing the cost of undertaking minor activities. Where consent is required, guidance in the Regional Plan, in the form of information requirements and policy, streamlines the processing of consents/permits for other activities thereby reducing the costs for applicants.

There is a wide range of costs for the processing of non-notified and publicly notified consents, therefore, the implications of whether a consent is notified or non-notified may be significant to an applicant, particularly in relation to the time and cost of processing the application.

Nation-wide data collected by the Ministry for the Environment, on average costs by regional/unitary authority for processing consents/permits, indicates that the average WRC minimum charges for processing consent applications are around mid-range for both non-notified consent and total notified consents (MfE 2021)). This is likely a reflection of the complexity of the Regional Plan and the range of natural resource management issues within the region that need to be managed.

5.4.2.2. Length of Time to get a Consent/Permit Granted

Delays in processing of applications for consents can impose unnecessary costs on applicants. The Council aims to process applications within the timeframes in the RMA, 60 working days for notified and limited-notified applications without a hearing, and 100-130 days for notified applications with a hearing. The timeframe for processing a non-notified application is 20 working days. The processing timeframes can be extended for:

- further information requests (s92(1) and s92(2))
- waiting for affected party approvals (s94)
- and/or other reasons, with or without the approval of the applicant (s37A(2)(b) and s37A(2)(a)).

Actual timeframe compliance with the discount regulation timeframe for the 2019/20 year for all WRC consents was 99.8 percent. In total, 951 applications (both Regional Plan and Coastal Plan) were processed to completion. Of these, there were five that were processed outside the statutory RMA timeframe. However, one of these was subject to the queued priority process (i.e. it was an application to take water where the applications need to be processed in priority order) and two applications were processed during COVID-19 so did not trigger the discount regulations. Two applications were processed outside the statutory timeframe, one by one day, one by four days and therefore received a discount.

5.4.2.3. Costs of Monitoring Consents

Council is required to monitor compliance with consent/permit conditions. The monitoring programme is based on compliance strategies prepared at the Directorate, Section and Team level. These strategies consider the monitoring priorities based on a range of criteria. From that, monitoring targets are set, which also need to align with WRC Annual Plan targets. For instance, the following criteria were used to select sites for monitoring in the 2019/2020 year:

- Sites with recent significant non-compliance or partial compliance that require follow up
- Sites that have never been monitored, or not monitored, for over 3 years



- Sites that require a bond and there is a likelihood that a sufficient bond has not been provided
- Sites for which a consent/permit has been recently granted and where it is highly likely works will occur in the 2019/20 year
- Sites that are due to expire within the next 18 months – to ensure compliance and that the consent holder is aware of requirements for replacing consent if required
- Sites identified as a P1 in the 2018/19 year unless they can be down-graded due to long term high or full compliance
- Sites of importance, political interest or that are contentious.

The Annual Plan requires 95-100 per cent of high priority sites sites to be monitored annually and the Annual Report monitors the performance of compliance monitoring of consented activities. Since 2013, Council has consistently achieved in monitoring over 99% of identified high priority consented sites, with most years achieving 100% performance rate. Council also undertakes annual compliance monitoring of large number of farms around the region. ⁹

Monitoring of the region’s resource use is undertaken on behalf of consent holders, and is mostly cost recovered. This information is made publicly available in the Council’s long-term council community plans. In 2021/22 WRC costs for consent processing and compliance monitoring was \$11.7 million of which \$8.1 million was recovered through fees and charges to applicants (private). The remaining funding came from public funding, such as general rates, and other income.

In 2018, an analysis on compliance, monitoring and enforcement (CME) activities across all Council’s (unitary and regional) for the 2017/18 year was completed by the Catalyst Group. The analysis found that the Council had an average resourcing of 0.10 full time equivalent staff (FTE) responsible for CME per 1,000 head of population. The average resourcing across all Council’s during that period was calculated at 0.13 per 1,000. Based on this data, the Council had on average less resourcing for CME compared to other Council’s in the 2017-2018 period.

5.4.3. Broader Economic Costs

The Regional Plan constrains activities and development within the region, and this has been highlighted by some members of the community either via direct correspondence or submissions on plan changes. Most feedback notes that the Regional Plan is imposing unacceptable costs on businesses or the community or has unnecessarily and unreasonably constrained land use intensification. There is limited economic data that quantifies these broader economic costs, however, the recent economic impact assessment of the nitrogen capping provisions introduced under variation 5 has calculated the overall estimated net cost to farmers within the Taupo catchment, as a result of the scheme, is 189.9 million. This indicates that the Plan does constrain some parties wishing to undertake development or activities within the region, however, due to insufficient data ‘broader economic costs’ cannot be accurately determined.

⁹ Waikato Regional Council Annual Report 2013/14, 2014/15, 2015/16. 2016/17, 2017/18, 2018/19, 2019/20



5.5. Summary of the economic costs of implementing the Plan

Table 15 summarises the economic costs of implementing the Regional Plan described above. The Table is based upon a matrix set out in Enfocus (2008) and provides an estimated rating (low – high) of how costly implementing the plan is in a range of measures discussed in previous sections.



Table 10: Summary of costs associated with implementing the Regional Plan

Types of Costs	Measures	Evaluation of Costs			Comment
		Low	Medium	High	
Administrative Costs (costs incurred by the Council to administer the Plan & implement non-regulatory methods)	Proportion of consent costs not recovered by WRC				<p>Between 2014 - 2019, 5,937 consents/permits (discharge permit, water permit and land-use consents) have been issued by WRC, this is high in comparison to other regions.</p> <p>Council normally recovers between 80% to 100% of resource consent processing costs from applicants for resource consents. This is considered relatively high and therefore the costs associated with this measure is assessed as low.</p>
	FTEs monitoring Regional Plan provisions				<p>Monitoring is largely incorporated in the Council's annual reporting and state of environment monitoring programmes, there is no specific monitoring programme related to the environmental results anticipated in the Regional Plan.</p> <p>An independent report completed by the Catalyst group in 2018, calculated, based on 2017/18 data, the Council had an average resourcing of 0.10 FTE responsible for Compliance monitoring and enforcement (CME) per 1,000 head of population. The average resourcing at that time was calculated at 0.13 per 1,000. Based on this data it could be inferred that the costs associated with FTEs responsible for CME in the Waikato is low.</p>
	Condition monitoring, compliance and enforcement actions taken under the Regional Plan				<p>Since 2013, Council has consistently achieved in monitoring over 99% of identified high priority consented sites, with most years achieving 100% performance rate. Furthermore, consent processing and compliance monitoring has overtime consistently made up over half of Council's expenditure cost associated with resource use. It is acknowledged that monitoring of the region's resource use is undertaken on behalf of consent holders and is mostly cost recovered. There is some compliance monitoring undertaken on a number of large farms</p>



					around the region which is likely covered by rates. Overall, the costs associated with monitoring, compliance and enforcement have been assessed as medium.
	Costs incurred by the Council to deliver non-regulatory activities				Includes non-chargeable Council activities such as provisions of advice and information and advocacy. Very little resource is allocated to this area.
	Costs incurred by Council to undertake policy development to support implementation of the Regional Plan				Council has undertaken a number of variations and plan changes, most of which consisted of lengthy process times and demanded a high volume of Council resources, thus contributing to high expenditure by Council. As a result, this measure has been assessed as high.
Compliance Costs (costs incurred by resource users to comply with regional rules)	Monitoring costs				Monitoring of the region's resource use is undertaken on behalf of consent holders and is mostly cost recovered. This is considered relatively high cost to resource users.
	Resource consent costs charged to resource users				MfE data indicates that the average WRC minimum charges for processing consent applications are around mid-range, when compared to other Council's, for both non-notified consent and total notified consents (MfE 2021). As a result, the costs associated with this measure has been assessed as medium.
	Constraints imposed by the Plan limiting resource users' flexibility to achieve environmental results anticipated				There is limited data available to determine the cost of this measure
Other Economic Costs (broader costs associated)	Production constraints				There is limited data to determine the cost of this measure.



with the Regional Plan constraining production & innovation, or resulting in the sub-optimal allocation of resources)	placed upon targeted sectors				
	Constraints imposed by the Regional Plan by the lack of certainty given to existing or potential new resource users about what they can do & how the manage resources				The Regional Plan has been operative for a number of years and consists of a policy framework that outlines rules to provide certainty to resource users on what activities are managed under the Regional Plan. As a result, the constraints on resource users by the Regional Plan, as a result of uncertainty, is considered to be low.
Summary					Based on the table, administrative costs are considered to be low, compliance costs are medium and other economic costs are low. Overall, the costs of implementing the Regional Plan are considered to be low.



5.6. Benefits and Costs of the Plan

The main benefits of the Regional Plan are the environmental results anticipated from achieving the objectives outlined in the Regional Plan. Whether the Regional Plan has been effective in meeting the objectives is discussed in detail in section 4 above. Overall, the Regional Plan has been evaluated as being moderately effective in achieving the objectives and environmental results anticipated for the region's resources and therefore has a range of benefits in terms of maintaining and managing the region's natural resource.

Costs of the Regional Plan have been discussed in detail in section 5 above. In relation to costs, a significant component of the administration of the Regional Plan has been introducing changes to the Regional Plan. Consent costs and compliance monitoring are mostly cost recoverable by the Council, thus reflecting a high cost to resource users, but only a moderate cost to Council. Overall, the costs of implementing the Regional Plan have been assessed as low.

Overall, the benefits of the Regional Plan are considered to outweigh the costs and therefore the Regional Plan is considered to be efficient.

6. Summary and conclusions

This review has explored the results of regional monitoring for State of Environment (SoE) reporting, consent data, and staff views on the effectiveness of the plan. The efficiency of the Plan was examined by looking at the administration costs incurred by the Council (largely SoE monitoring, some incident response work, and policy development), costs incurred by consent applicants and consent holders (costs of applying for and monitoring consents) and broader economic costs. In summary, the evaluation has found that the Regional Plan has been moderately effective in achieving the objectives and environmental results anticipated for the region's resources (refer Table 11) and is also efficient in terms of costs relating to implementation.

Staff views on the appropriateness and structure of objectives, policies, and rules within the Plan in relation to each of the current modules has also been captured. These views suggest that through the review of the Plan, the drafting of these provisions could be made more consistent, specific, and directive. Clearer provisions would remove the need for wordy explanations in the Plan and provide more measurable environmental monitoring indicators. The review of the Plan will provide an opportunity to consider the Plan's current approach to structuring and drafting provisions.

During the evaluation, it was found that there is limited information to determine trends and pressures from activities that are managed under the Regional Plan (i.e. compliance monitoring data). To enable a more comprehensive evaluation on the effectiveness of the Regional Plan it is recommended that more resourcing is put into compliance monitoring to enable a better understanding of how consented activities are impacting on the region's resources.



Table 11: Summary of Effectiveness of the Regional Plan

Plan section	Objectives and Environmental Results Anticipated	Effectiveness
Air	Largely being met	High
Geothermal	Some are being met	Moderate
Land and Soil	Some are being met	Moderate
Rivers and Lake Beds	Some are being met	Moderate
Water Quality and Quantity	Most are not being met	Low
Lake Taupo Catchment	Largely being met	High
Matters of Significance to Māori	Most are being met	Moderate



References

- Caldwell J 2019. Ambient air quality monitoring report for the Waikato Region - 2017. Waikato Regional Council Technical Report 2018/15. Hamilton, Waikato Regional Council.
- Brown, M 2018. Independent analysis of the 2017/2018 compliance monitoring and enforcement metrics for the regional sector. A report prepared for Waikato Regional Council on behalf of the Compliance and Enforcement Special Interest Group. Palmerston North, The Catalyst Group.
- Jones H, Kimberley M, Hill R, Borman D 2016. Riparian characteristics of pastoral waterways in the Waikato region, 2002-2012. Waikato Regional Council Technical Report 2015/49. Hamilton, Waikato Regional Council.
- Journeaux P, McNae D, Allen J 2019. Financial impact of the Waikato Regional Plan nitrogen cap on Taupo farmers. Waikato Regional Council Technical Report 2019/24. Hamilton, Waikato Regional Council.
- Land Air Water Aotearoa (n.d.). <https://www.lawa.org.nz/> [accessed 19 August 2021]
- Lebe J 2021. Geothermal features annual monitoring report – June 2021. Waikato Regional Council Technical Report 2021/17. Hamilton, Waikato Regional Council.
- Ministry for the Environment 2021. National monitoring system. <https://environment.govt.nz/what-government-is-doing/areas-of-work/rma/national-monitoring-system/> [accessed 19 August 2021]
- Ministry for the Environment 2014. Report of the Ministry for the Environment for the year ended 20 June 2014. Wellington, Ministry for the Environment.
- Preston N 2017 16 Oct 2017. Waikato's controversial healthy river plan soars to \$16m plus. New Zealand Herald. <https://www.nzherald.co.nz/nz/waikatos-controversial-healthy-river-plan-soars-to-16m-plus/TLT2FQUKZ7QM5FQ4WEHZFNDMDY/> [accessed 19 August 2021]
- Waikato Regional Council 2020. 2019/20 Annual Report. Waikato Regional Council Policy Series 2020/16. Hamilton, Waikato Regional Council.
- Waikato Regional Council 2021. 2021-2031 Long Term Plan. Waikato Regional Council Policy Series 2021/06. Hamilton, Waikato Regional Council.
- Waikato Regional Council (n.d.). Environment. <https://www.waikatoregion.govt.nz/environment/> [accessed 16 August 2021]
- Waikato Regional Council 2023. Te oranga o te taiao: Waikato state of the environment 2022. Waikato Regional Council Policy Series 2023/04. Hamilton, Waikato Regional Council.



Waikato Regional Council (n.d.). Waikato progress indicators - Tupuranga Waikato.
<https://waikatoregion.govt.nz/community/waikato-progress-indicators-tupuranga-waikato/>
[accessed 19 August 2021]

Versus Research Ltd 2016. Your environment - what matters? Waikato Regional Council Technical Report 2016/14. Hamilton, Waikato Regional Council.



Appendix 1 – Potential Regional Plan improvements

The following tables outline staff feedback on a range of “potential improvements” to the Regional Plan that could be considered for any future plan reviews and/or variations.

Air	
National Legislation	<ul style="list-style-type: none"> ● Need to ensure the Regional Plan aligns with the relevant EPA and NES requirements. ● Ultra-low sulphur diesel has been phased in by EPA therefore this rule needs to be reviewed (1% threshold) to reduce sulphur threshold ● EPA is looking at banning Cypermethrin (currently in a reassessment process). Could look at taking this out of plan but EPA may do this. ● Align Prohibited Activity Rule 6.1.13.4 – Open Burning of Specified Material and Controlled Activity Rule 6.1.14.2 – Combustion of Landfill Gas with prohibited items in the NES ● Fumigation under Permitted Activity Rule 6.1.9.1 – Miscellaneous isn’t consistent with EPA requirements. This needs to be checked and will be important for the inland port.
Policy Framework and Provision	<p><u>General</u></p> <ul style="list-style-type: none"> ● Permitted activity thresholds for abrasive blasting are too high. Currently the Regional Plan allows 10% whereas overseas only 1% is permitted. ● Update Advisory Notes in Rule 6.1.10.4 relating to dry abrasive blasting. ● Section 6.1.17 relating to metal processing - chromium plating often uses mist suppressants. Some of these suppressants contain illegal compounds. ● Definition of waste oil needs tightening in the Regional Plan. USCPA has specific requirements for waste oil. Also need to include definitions for biofuels and biodiesel. These compounds still need to be managed due to combustion effects from burning these fuels ● Clarification of setbacks relating to spray irrigation is needed. ● Revise Permitted Activity Rule 6.1.9.1 relating to tanks used for storage to ensure the storage of unwanted goods is preventable. ● The Regional Plan needs to provide more information on the criteria for best practicable option for activities. ● No criteria is provided when determining the “best practicable option” and therefore is open for interpretation. <p><u>New Rules</u></p> <ul style="list-style-type: none"> ● The plan does not have any specific rules for crematoriums. A lot of other regional plans have rules around crematoria. Need some criteria for this. ● Include a permitted activity rule into the new plan for emergency generators. Council currently has a pragmatic approach which involves people asking whether they will comply with the permitted activity rule.

Geothermal	
Policy Framework	<u>General</u>



<p>and Provisions</p>	<ul style="list-style-type: none"> • Need to make sure the rules (particularly discretionary rules) around take and discharge are integrated • Over time the material used to plug abandoned wells has been known to fail. Could include policy into the regional plan to address this. • Bonded wells can create quite significant problems for Council. Some companies refuse to put up their bonds and there are no tools in the Regional Plan to help with this. Would be good to require this in the drilling section of the Plan. Staff has suggested to include a definition of well as a structure. Also, Council plan on addressing bonds in the Coastal Plan therefore would be good to have consistency in the use of these between both plans. • A lot of money is being spent on controlling wilding pines around geothermal areas therefore it would be good to have policy that supports this. Increase the buffer zone from 20 - 50m to the edge of the geothermal stream. Will require landowner onus. • It would be advantageous if consent conditions for annual reporting required developers to identify future reserves for future generations (quantify this). Annual reporting is actioned through conditions of consent. Would be good to require developers to provide proven, preferred and probable options. • Overall, the National Environmental Standards for Plantation Forestry have improved the impacts of forestry on geothermal resources, particularly surrounding small scale takes. However, there are additional matters that can be regulated through the plan such as regulating the planting of trees around geothermal areas rather than prohibiting them. • Don't prohibit planting of trees near geothermal areas instead have rules controlling this activity. <p><u>Mapping Geothermal Surface Features</u></p> <ul style="list-style-type: none"> • Need more up to date and accurate mapping of geothermal features. Developers want mapping to provide certainty. • Need to determine a way to be able to change maps without going through a plan change process. A streamlined process for updating maps in the regional plan has been successful in the past and took just under a year to complete. Could also have a process built into the plan that requires maps to be updated on a 3 year cycle. • Revision of system boundaries is required using the latest technology. <p><u>Definitions and Advisory Notes</u></p> <ul style="list-style-type: none"> • Overall definitions relating to geothermal resources need tightening • Include a definition for non-geothermal water. It is noted that this definition is different between RPS and WRP. • The Environment Court has provided some definitions for geothermal related features/activities. Would be good to apply these to the Regional Plan. • Only recently has a definition for a geothermal system been included in National Policy (NPS for Indigenous Biodiversity, 2023). Until this time, and in the absence of a definition, staff have faced difficulties in determining where and what these systems/features are.
<p>Miscellaneous</p>	<ul style="list-style-type: none"> • Hot geothermal fluid contains carbon dioxide and methane, both of which are greenhouse gases. As a result, it would be good to develop a methodology for measuring emissions from natural surface features in the Regional Plan.
<p>Land and Soil</p>	



Policy Framework and Provisions	<ul style="list-style-type: none"> • Earthwork Rules 5.1.4.11 - 5.1.4.15 are complex and hard to determine which rule to apply. • Rules relating to conversion of pine to pasture are vague and unclear.
River and Lake Beds	
National Legislation	<ul style="list-style-type: none"> • Rules will need to be consistent with the new National Environmental Standards for Freshwater and National Policy Statement for Freshwater Management.
Policy Framework/Formulating and Provisions	<p><u>Formatting/Layout</u></p> <ul style="list-style-type: none"> • Logically dams should go in the structures chapter. • Bundle the controlled activity rules for culverts together with the other activities relating to the construction of culverts. <p><u>Lakes</u></p> <ul style="list-style-type: none"> • Revise and strengthen the assessment criteria relating to lakes. • Regional Plan needs to better address the effects of other activities that impact the bottom sediment of lakes that result in water level changes. <p><u>Structures</u></p> <ul style="list-style-type: none"> • Include requirements for habitat enhancement services for new structures. • Do not remove rules relating to bridges and culverts as it would leave a large hole in the plan. • A lot of dams are not consented. Need to be tougher on how Council manages these. The Regional Plan should be discouraging dams unless there is a good set of conditions attached to the structure. • Add a condition that requires people to submit the location of permitted intake structures to Council for Council records. • It is recommended to have best practice rules/guidelines relating to construction of culverts, especially in relation to the location of these structures on the bed of rivers. • Stopbanks are located within high risk erosion areas and therefore any maintenance activities will always require consent. Rules around this activity need to be more nuanced, i.e. bringing in cleanfill can be seen as deposition in a flood plain under the plan. • Permitted culverts need to conform with specified sizes in fish passage guidelines. Compliance may not be an issue in future if guidelines are followed. <p><u>Disturbances</u></p> <ul style="list-style-type: none"> • Would be good to outline in the regional plan what you can and can't do in an artificial watercourse. <p><u>New/Emerging Activities</u></p> <ul style="list-style-type: none"> • Need to consider floating wetlands. • There are a few emerging restoration activities that may need to be managed under the regional plan. • The regional plan may need to manage the making of new river beds (i.e. braided rivers) <p><u>Definitions and Advisory Notes</u></p> <ul style="list-style-type: none"> • Include a definition in the regional plan that delineates between:



	<ul style="list-style-type: none"> ○ training structures and erosions control structures ○ legal and illegal structures. ● Include definitions of reverted wetlands as well as other types of wetlands in the regional plan. ● Include an advisory note with a clear explanation of a river bed
Miscellaneous	<ul style="list-style-type: none"> ● Incentivise people to install culverts that are appropriately sized in terms of fish passage (based on the NZ fish passage guidelines).
Water Quality and Quantity	
National Legislation	<ul style="list-style-type: none"> ● The new NES-FW regulations for providing fish passage are focused on rivers rather than artificial water courses. Will be difficult to enforce controls on artificial water courses in the Regional Plan. Could look at identifying ecological areas in action plans, however, this may prove difficult as Council does not know the location of these areas without going into the field. ● There is potential to have no rules relating to wetlands and just fall back on the new NPSFM and NES-FW policies and rules. ● New NES-FW now has specific rules relating to diversions, but are related to natural waterways, not modified.
Policy Framework and Provisions	<p><u>General</u></p> <ul style="list-style-type: none"> ● Relying on total suspended solids (TSS) during compliance monitoring is a lengthy process and is often questioned by consent holders. Most often results won't be received until after 24 hours from commencement. Rules requiring TSS monitoring need strengthening to prevent a free pass in the first 24 hours of the activity being implemented. It is considered to be of value to have standards for monitoring suspended solids, but consideration should be given to having a standard that can be determined on site rather than being sent off to the lab. It is noted that the type of parameter to be used to measure suspended solids would likely need to be determined on a case by case basis. Black disc could be a good indicator instead of TSS, however, unsure how this could be used in a regulatory sense (this is where TSS is useful). Potential to use both TSS and black disc in compliance monitoring. <p><u>Damming and Diverting</u></p> <ul style="list-style-type: none"> ● Need to include a definition of diversion, including the many types of diversions, in the regional plan ● Controlled activity rule 3.6.4.17 relating to coffer dams should include temporary works as maintenance of existing structures ● Permitted Culverts need to conform with specified sizes in fish passage guidelines. Compliance may not be an issue in future if guidelines are followed. ● The catchment size standard in permitted activity rule 3.6.4.8 is considered to large <p><u>Discharges to water</u></p> <ul style="list-style-type: none"> ● Need to consider the effects on aquatic life from insufficient water quality as a result of discharge to rivers from land drainage areas during low flows and/or flood flows (chronic and acute effects). ● Council needs better regulation via the regional plan to drive Territorial Authorities to improve their point source discharge rules. ● Include in the regional plan provision that requires the development of catchment management plans for new comprehensive consents. These are currently managed through best practice rather than via provisions.



- An increase in development and discharges from new growth cells has the potential to create streams rather than overland flow paths. This cumulative effect hasn't been picked up in the Regional Plan.
- Offsetting and compensation is not touched on at all in the Regional Plan. Auckland Council has run into problems with this type of mitigation as there is no longer land (public/council land) available to implement offsetting activities. Developers tend to fall back on offsetting as a method of mitigating potential discharge effects.
- Plan needs to highlight the top 3 necessities first rather than falling back on offset mitigation. If offset mitigation is used then water quality targets should be set at the top of the catchment.
- Catchment based effects need to be considered in the regional plan

Water Allocation

- Water allocation chapter doesn't acknowledge advances in wastewater treatment systems

Wetland Clearance/Drainage

- Prolonged fish kills in streams due to the draining of acid sulphate soils (land draining) is an emerging issue that needs to be considered. This is not region-wide and Council is still working on how to map the extent of potential acid sulphate soils.
- The regional plan needs to consider peat shrinkage and CO2 emissions, as a consequence of land drainage/lowering the water table too far.
- The regional plan needs to manage the location of water storage ponds
- There will likely be a growing demand for artificial wetlands, which is currently managed under natural waterways in the regional plan. Need to enable this activity under the plan as it has environmental benefits, however, it is noted that there has been some cases of poorly constructed wetlands (not functioning properly), therefore, strong regulation is required.

