
MARLBOROUGH ENVIRONMENT PLAN

Section 32 Report

Chapter 5 – Allocation of Freshwater Resources

Publically notified

9 June 2016

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Overview

Background

Section 32 of the Resource Management Act 1991 (RMA) requires that in the process of reviewing its regional policy statement and resource management plans, the Marlborough District Council (the Council) must prepare and publish an evaluation report. The three documents being reviewed are the Marlborough Regional Policy Statement (MRPS), the Marlborough Sounds Resource Management Plan (MSRMP) and the Wairau/Awatere Resource Management Plan (WARMP). Each resource management plan is a combined regional, coastal and district plan.

Section 32¹ of the RMA requires that:

- reviewed regional policy statements and plans must be examined for their appropriateness in achieving the purpose of the RMA;
- the benefits, costs and risks of new policies and rules on the community, the economy and the environment be clearly identified and assessed; and
- the written evaluation must be made available for public inspection.

The Section 32 process is intended to ensure that the objectives, policies and methods the Council decides to include in the new resource management framework have been well tested against the sustainable management purpose of the RMA. The Section 32 evaluation report for the proposed Marlborough Environment Plan² (MEP) has been prepared on a topic basis, centred on the policy chapters of Volume 1 of the MEP. Individual reports have been prepared on the following:

Topic	Volume 1 Chapter of the MEP
Introduction to Section 32 evaluation reports	
Marlborough's tangata whenua iwi	3
Use of natural and physical resources	4
Allocation of public resources – freshwater allocation	5
Allocation of public resources – coastal allocation	5
Natural character	6
Landscape	7
Indigenous biodiversity	8
Public access and open space	9
Heritage resources	10
Natural hazards	11
Urban environments	12
Use of the coastal environment – subdivision, use and development activities in the coastal environment, recreational activities, fishing, residential activity, shipping activity and Lake Grassmere Salt Works	13
Use of the coastal environment – ports and marinas	13
Use of the coastal environment – coastal structures, reclamation and seabed disturbance	13

¹ See Appendix A.

² The Marlborough Environment Plan is a combined regional policy statement, regional plan, regional coastal plan and district plan.

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Topic	Volume 1 Chapter of the MEP
Use of the rural environment	14
Resource quality – water	15
Resource quality – air	15
Resource quality – soil	15
Waste	16
Transportation	17
Energy	18
Climate change	19

Chapters 1 and 2 of the MEP are not included within the Section 32 evaluation as they provide an introduction and background to the proposed document. These chapters do not include provisions that must be evaluated in accordance with Section 32.

The Introduction report covers the scope of the review that the Council has undertaken, including consultation and the nature of information gathered, investigations and research undertaken and any analysis that has occurred. An overview of the Council's statutory obligations, the relationship of the MEP with other plans and strategies and working with Marlborough's tangata whenua iwi is described. A set of guiding principles used by the Council in the development of the objectives, policies and methods for the MEP is provided. The Council acknowledges that the principles have no statutory basis and do not in themselves have specific objectives, policies or methods. However, they provide the philosophy and values underlying the content of the MEP and consequently help to inform the Section 32 evaluation.

This Section 32 evaluation report relates to provisions for the allocation of Marlborough's freshwater resources. The policy approach for these provisions is set out in Chapter 5 - Allocation of Public Resources while the rules are set out in the General Rules chapter of Volume 2 of the MEP. This evaluation report is set out as follows:

- Description of issues – this provides an overview of the resource management issues for the allocation of freshwater resources.
- Statutory obligations – the extent to which there are direct links with Section 6 or 7 matters and whether the provisions are directed or influenced by national policy statements or national environmental standards.
- Information and analysis – whether specific projects, investigations or other information have influenced the inclusion of provisions or other responses to dealing with resource management issues.
- Consultation – an overview of the extent and nature of specific consultation undertaken on the proposed provisions.
- Evaluation – an assessment of the provisions under each of the identified issues. Where appropriate, reference is made to supporting material that has helped to inform why a particular option has been chosen. In some cases the evaluation is undertaken on an individual provision, while in others groups of policies or methods have been assessed together.

In some parts of this evaluation report there are references to provisions within other chapters of the MEP. This is due to those provisions assisting in implementing the management framework for the subject matter of this report or vice versa. A reader should consider the evaluation for these other provisions where they are referred to in this report.

Key changes

The key changes in the MEP from the approach in the MRPS, WARMP and MSRMP are related to the National Policy Statement for Freshwater Management 2011 and 2014 (NPSFM) and require the Council to give effect to the NPSFM by:

- setting environmental flows/levels and allocation limits (Policy B1);
- ensuring efficient allocation of water;
- including criteria for the transfer of water;
- encouraging the efficient use of water;
- avoiding future over allocation of water; and
- phasing out the over allocation of water (Policy B6).

Summary of reasons for the proposed provisions

Section 32(1)(b)(iii) requires a summary of the reasons for deciding on the provisions included in the MEP. The summary of reasons for the provisions included in the MEP in relation to freshwater allocation are set out below; however, the more detailed evaluation is set out in the remainder of this report.

- In 2011, the Government introduced the NPSFM, which has been superseded by the NPSFM 2014. The NPSFM 2014 sets out objectives and policies that direct local government to manage water in an integrated and sustainable way while providing for economic growth within set water quantity and quality limits. The main focus of the NPSFM 2014 is to:
 - set limits on resource use (e.g., how much water can be taken) to meet limits over time and ensure they continue to be met;
 - determine the appropriate set of methods to meet the objectives and limits;
 - take an integrated approach to managing land use, freshwater, and coastal water, and
 - involve iwi and hapū in decision-making and management of freshwater.
- The New Zealand Coastal Policy Statement 2010 (NZCPS) and the NPSFM overlap in that part of the coastal environment where there are freshwater resources. The NPSFM requires regional councils to have regard to the connections between freshwater and coastal water when preparing regional plans. However, the policies within the NZCPS are in relation to water quality in the coastal environment rather than water quantity. In terms of allocation, the NZCPS deals with allocation of space in the coastal environment. Chapter 15 - Resource Quality (Water, Air, Soil) in Volume 1 of the MEP, covers the connections between the NPSFM and water quality in relation to the coastal environment under the NZCPS.
- Marlborough's tangata whenua iwi feel that there is a lack of understanding in the community and by decision makers that water has wairua (life force). Mauri is the term used by Marlborough's tangata whenua iwi to describe the cultural concept that all natural resources have wairua. It is their view that land and water are currently used and managed in ways that do not recognise the spiritual significance of the resource. This means that the taking, damming or diversion of water can adversely affect the mauri of water. Of particular concern is the impact of reduced flow on the ability of each iwi to support traditional uses and values. The Council has included policy to give priority to protecting the mauri of freshwater and freshwater flows/levels. Regard was had to protecting the mauri of freshwater and freshwater bodies when establishing the allocation frameworks and permitted activity rules contained in the provisions of this chapter.

Description of issues

Water is one of Marlborough's most important natural resources. Water has played a critical role in the development of the Marlborough District (District) to date and given the dry climate experienced around much of the District, there will continue to be a reliance on surface water and groundwater resources. Fortunately, Marlborough's main river systems receive contributions from West Coast rainfall and historically this has meant that the rivers, and the groundwater aquifers that they feed, generally have enough water to provide for the community's needs, while retaining sufficient flow or level to continue to provide for nature's requirements.

Over the last 10 years, Marlborough has been experiencing unprecedented demand for water. The expansion has primarily occurred on the Wairau Plains, where land previously used to grow pipfruit and stone fruit, and for cropping and pasture, has been planted with grapes. A similar change in land use is now occurring in the Waihopai and Awatere Valley's and further south. Given Marlborough's climate and soils, the majority of vineyards are sustained by irrigation.

Although the water demand for grape plants is less than for other crops, the sheer scale of the land use change has resulted in an overall increase in the demand for, and use of, water since the MRPS became operative in 1995. This is reflected in the increase in the allocation of water authorised by water permits.

The freshwater allocation provisions in Chapter 5 are based on eight issues:

Issue 5A – The diversity of water resources makes it difficult to achieve uniformity in water allocation and water use management regimes across the District.

- Marlborough has a diverse array of rivers and aquifers, which is evident in the size of catchments/aquifers, the length of rivers through the catchment, the spatial extent and depth of aquifers, the flow of water through the river/aquifer, water availability (and variation in water availability) and the natural and human use values that the waterbodies support.
- The provisions set out in Chapter 5 of Volume 1 of the MEP establish consistent objectives across all water resources in Marlborough. However, differing methods to achieve these outcomes are required in response to the variations that occur in Marlborough's geology, topography, land cover and climate. The resulting lack of consistency can create frustration, especially for water users who access water from more than one water resource. However, a more consistent approach may unnecessarily restrict users from accessing a particular resource for the sole purpose of consistency, rather than relating availability of access to the ability of the resource to absorb further abstraction.

Issue 5B - The taking, damming or diversion of water can compromise the life-supporting capacity of rivers, lakes, aquifers and wetlands.

- The water that flows in rivers or that is contained in aquifers, lakes and wetlands sustains Marlborough's community and environment. Freshwater bodies are also used as an important source of water for a range of uses, including irrigation, industrial, commercial and frost fighting. This water use relies on the taking, damming and/or diversion of water.
- The taking, damming or diversion of water have the potential to significantly change the flow or level characteristics of waterbodies. Such changes can adversely affect the natural and human use values that rely on the water in the waterbody. Those effects could occur as a result of a single activity or the cumulative effect of multiple activities and effects can be experienced in the short-term or they can be permanent. Any loss of natural and human use values, either short-term or long-term, will have an impact on the community and the intrinsic values of the environment.

Issue 5C – Marlborough’s social and economic wellbeing relies on an adequate supply of freshwater.

- Freshwater, particularly from aquifers, is the source of the drinking water that sustains Marlborough’s rural and urban communities and provides an essential contribution to health standards within those communities. It also critically supports primary production in Marlborough, particularly for irrigation of land and crops in our dry climate, and is heavily used for commercial and industrial purposes.
- The economic value of that water to Marlborough’s economy was estimated at \$1.1 billion in 2011, 77% of which was contributed through primary production. Reductions in the supply of water would therefore, have significant implications for Marlborough’s social and economic wellbeing.

Issue 5D – Many water resources are fully allocated or are approaching full allocation, inhibiting the opportunity to provide for further demand for water resources.

- The amount of water available for abstraction from specific rivers and aquifers in Marlborough was established between 1995 and 1997. Allocation has progressed relatively smoothly and resource users have been able to access water reasonably easily through the water permit process. For the Awatere, Wairau and Waihopai Rivers this has involved allocation moving sequentially through a tiered system of allocation classes.
- Allocations are approaching or have reached allocation limits for a number of rivers. Under the NPSFM the Council cannot continue to allocate beyond the limits established by the MEP. Without further intervention, reaching a state of full allocation will seriously affect opportunities for future economic growth. Marlborough’s primary and secondary industries rely on freshwater and any constraint on future supply will curtail economic growth in these industries.

Issue 5E – The over-allocation of water resources creates a risk that the cumulative abstraction of water from the resource will exceed the safe yield, creating significant adverse effects on natural and human use values and threatening the reliability of existing water uses.

- Over-allocation of water resources exists when a water resource has been allocated beyond a limit or is being used to a point where a freshwater objective is no longer being met. Cumulative abstraction of water that exceeds the allocation limits creates the potential for significant adverse effects. This is because the limits represent the extent of safe yield from the river or aquifer. Such abstraction is unsustainable as it threatens the life-supporting capacity of the water resource and, where the adverse effect is long-term, the ability of the water resource to sustain future generations.
- The provisions of the MEP seek to ensure that allocation limits are not exceeded in the future. However, the allocation of water to users through water permit allocations has already exceeded safe yield in the Wairau Aquifer, Benmorven Aquifer, Brancott Aquifer, Omaka Aquifer and the Riverlands Aquifer.

Issue 5F – The taking of groundwater in proximity to rivers can individually or collectively reduce flows in the rivers.

- For most of Marlborough’s water resources, there is an exchange of water between rivers and underlying groundwater. Adverse effects can occur when a river flow is reduced as a result of the taking of groundwater. The extent of adverse effects will vary depending on the rate of groundwater pumping, the distance between the point of abstraction and the river and the ability of water to move through the sediments on the river bed and through the adjoining soils. Where such effects occur, there is the ability for the same effects identified in Issue 5B to be created, either in isolation or in combination with other groundwater and/or surface water takes.

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Issue 5G – Allocating more water than is actually required for any use creates the potential for inefficient use of water. This can compromise the sustainability of the resource and prevent other users accessing water.

- Inefficient allocation and use of water is potentially a significant issue in Marlborough, given that many water resources are at or are approaching full allocation. Allocating and/or using more water than is required for a particular use prevents other potential users from gaining access to water in a limit-based management system. This can also occur when an allocation is not fully used or when water is lost through wasteful distribution/application methods.
- There will be cumulative social, cultural and economic effects from inefficient allocation and use of water once limits have been reached. In particular, as Marlborough relies on water for primary production and the processing of crops, inefficient allocation and/or use of water limits the opportunities for economic growth and employment.

Issue 5H – Demand for water typically peaks when river flows and aquifer levels are at their lowest, which can cause short-term water availability issues.

- Marlborough typically experiences a dry climate with the potential for significant seasonal variation in rainfall. Rainfall over summer months is generally insufficient to meet the demand of most crops, resulting in a significant increase in the demand for water for irrigation purposes. The low rainfall and high evapotranspiration over this same period means the flow of water in rivers and the levels of aquifers are typically at their lowest.
- The imposition of environmental flows/levels to protect the life-supporting capacity of the water resource can result in the restriction or suspension of abstraction from those water resources. The outcome is one in which water users, particularly irrigators, cannot access water at the very time they need it the most, creating a risk of reduced yield or crop failure.
- Given the importance of primary production to Marlborough's social and economic wellbeing, there is a need to find ways to alleviate such short-term water availability issues.

Issue 5I – There is the potential for a new water user to get access to water on a more reliable basis than allocations already made, resulting in inequitable outcomes.

- Freshwater in Marlborough has become a scarce resource in many freshwater management units as resource limits are approached (if not already reached). This results in competition for available water. Policy 5.3.6 identifies that the first-in, first-served method of allocation is efficient and effective for dealing with this competition prior to allocation limits being reached for the first time.
- However, once the water resource is fully allocated, there are some circumstances under which that allocated water could become available for re-allocation. Water users have identified as a concern the ability for existing or potential users to gain access to that water through the first-in, first-served method of allocation. Water that becomes available will have an inherent reliability depending on when that water was first allocated relative to other subsequent allocations. If the application is granted, the successful applicant may gain access to water under more favourable circumstances than other users granted water later than the original permit was granted. This is considered an inequitable outcome and one that could see the competition for water resulting in community conflict.

Statutory obligations

In achieving the sustainable management purpose set out in Section 5 of the RMA, the Council is required to:

- sustain the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations;
- safeguard the life-supporting capacity of air, water, soil, and ecosystems; and
- avoid, remedy or mitigate adverse effects of activities on the environment.

All of these matters have relevance for the take and use of freshwater. Furthermore, Section 6 matters of relevance to be recognised and provided for as a matter of national importance include Section 6(a), in which the natural character of wetlands, lakes and rivers and their margins are to be preserved and protected from inappropriate subdivision, use and development. Section 6(e) is also relevant as the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga is to be recognised and provided for.

Many of the matters in Section 7 of the RMA to which regard must be had, are important considerations in the management of water resources in Marlborough and include:

- (b) the efficient use and development of natural and physical resources;*
- (f) maintenance and enhancement of the quality of the environment;*
- (g) any finite characteristics of natural and physical resources;*
- (h) the protection of the habitat of trout and salmon; and*
- (l) the effects of climate change.*

Section 14 of the RMA specifies that the taking, use, damming or diversion of water is prohibited unless it is expressly allowed by a rule in a regional plan, a resource consent, or the water is required for an individual's domestic needs or stock water requirements, or for firefighting.

Sections 30 and 31 of the RMA set out a range of statutory functions for the Council that enable it to establish management frameworks in response to the identified issues.

Local authorities must give effect to relevant provisions of national policy statements (NPS) in planning documents and regulations setting national environmental standards (NES). There are two national policy statements and one proposed national environmental standard relevant to freshwater allocation.

National Policy Statement for Freshwater Management 2014

The NPSFM was gazetted in May 2011 and came into force in July 2011 but has been since amended in 2014. The NPSFM sets out objectives and policies that direct local government to manage water in an integrated and sustainable way, while providing for economic growth within set water quantity and quality limits.

The MEP objectives give effect to the NPSFM by recognising the need to protect the natural and human use values of water resources, which include cultural values, amenity and natural character of rivers, while enabling the sustainable and efficient use of this resource to the benefit of Marlborough's industries and communities. With regards to water quantity, the MEP achieves this by:

- setting minimum flows and allocation limits for surface water bodies;
- establishing maximum allocation limits and aquifer restriction levels for groundwater resources; and
- promoting the efficient use and sharing of the water resource.

Setting enforceable quantity limits is a key purpose of the NPSFM. This is a fundamental step to achieving good environmental outcomes and creating the necessary incentives to use freshwater efficiently while providing certainty for investment. Water quantity limits must reflect local and national values. The NPSFM requires that the process for setting limits should be informed by the best

available information and scientific and socio-economic knowledge. Once limits are set, freshwater resources need to be allocated to users while providing the ability to transfer entitlements between users so that the value gained from water is maximised. Where water resources are over-allocated in terms of quantity to the point that national and local values are not met, there is a need to ensure that over-allocation is reduced over agreed timeframes.

National Objectives Framework

The 2014 amendments to the NPSFM added a 'National Objectives Framework' (NOF). The objective of the NOF is to provide an approach to establish freshwater objectives for national values, and any other values that is nationally consistent and recognises regional and local circumstances.

The NOF requires the Council to identify and establish Freshwater Management Units (FMUs) and set objectives for each unit. These FMUs are identified in the MEP and will be based on the hydrological characteristics of each water resource and the natural and human use values supported by the waterbody/bodies. Defining and using FMUs will help ensure that the management applied to the taking and use of water is appropriate to hydrological and environmental circumstances.

New Zealand Coastal Policy Statement 2010

The NPSFM and the NZCPS overlap in the freshwater portion of the coastal environment but focusses on effects of water quality rather than the allocation or quantity of water. The relationship between the NZCPS and water quality is discussed in Chapter 15 - Resource Quality (Water, Air, Soil).

National Policy Statement for Renewable Electricity Generation

The National Policy Statement for Renewable Electricity Generation (NPSREG) provides for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities. The preamble to the NPSREG notes that: *"this national policy statement does not apply to the allocation and prioritisation of freshwater as these are matters for regional councils to address in a catchment or regional context and may be subject to the development of national guidance in the future"*. The NPSFM preamble identifies electricity generation as one of 11 important national values of freshwater but does not prioritise uses or values. The NPSREG sits alongside the NPSFM but relates to different subject matter.

Proposed National Environmental Standard for Ecological Flows and Water Levels

The proposed NES on Ecological Flows and Water Levels was prepared in the context of the Sustainable Water Programme of Action, which aimed to improve the sustainable management of freshwater and to protect freshwater resources for the future. Establishing environmental flows and water levels was perceived to be a critical element of water management. Therefore, the government proposed to develop an NES under the RMA. The proposed NES is intended to complement and enhance the existing RMA process for establishing environmental flows and water levels through regional plans.

The proposed NES provides a set method for establishing interim limits on the alteration of flows in rivers and levels in groundwater systems for situations where no limits are yet set in a proposed or operative regional plan. The chief methods used to define ecological flows and water levels are hydrological methods (e.g., based on a proportion of the mean annual low flow, or MALF) and in-stream habitat methods (e.g., based on a calculation of the impacts of water abstraction or discharge on dissolved oxygen, total ammonia, water temperature and habitat for aquatic life).

One of the key issues is the basis for the establishment of the ecological flows and water levels, and specifically whether they are set only with reference to "environmental requirements" or if they involve some balancing of environmental and economic effects.

The proposed NES is currently on-hold pending decisions on the Government's freshwater reform programme.

Freshwater Advisory Committee

Included within each deed forming part of the Te Tau Ihu Claims Settlement Act (2014) is provision for the establishment of a River and Freshwater Advisory Committee. The Advisory Committee is to provide a foundation for the participation of iwi with interests in Te Tau Ihu in the management of rivers and freshwater in Marlborough, Tasman and Nelson. The Advisory Committee is intended to work in a collaborative manner with the common purpose of promoting the health and wellbeing of the rivers and freshwater within the jurisdiction of the relevant councils.

Information and analysis

A number of investigations and monitoring activities have helped to inform the review of water quantity provisions – an overview of some of these is provided below. Reports relevant in this regard are available on the Council's website.

State of the environment monitoring

The Council undertakes annual monitoring of surface water and groundwater. The results of this monitoring are reported to the Council's Environment Committee and copies of reports are available on the Council's website. The results of this monitoring have to some extent influenced the nature of the provisions (policy and rules) that have been included in the MEP.

Groundwater quantity

The Council manages the rate of groundwater abstraction within safe limits from season to season. This requires an understanding of the hydrology of each individual aquifer acquired over time through measurement and observation of the response to pumping. The Council's focus is on defining the complete water budget for water resources based on measurements of use, recharge and storage. This provides the knowledge to confidently manage aquifers and associated land uses.

The purpose of monitoring groundwater quantity is to ensure that the abstraction of groundwater in the Wairau and southern aquifer systems do not significantly affect flows in spring fed rivers in a manner that adversely affects the life-supporting capacity of the water and ecosystems.

To understand the current state of groundwater quantity, seasonal states and any long-term trends that may exist, the Council relies on a network of monitoring wells as a barometer of aquifer health. Levels at 30 wells across the District representing the main economically or ecologically important aquifers, provide real time information for decision makers and water users at fifteen minute intervals day and night.

The Council has operated a network of permanent wells to monitor aquifer status since the 1970s. Monitoring shows varying patterns caused by differences in abstraction rates or natural hydraulic properties. In terms of outputs, the Council also measures the flow of springs draining the aquifers including Spring Creek, Murphys Creek, Doctors Creek and Fultons Creek. This component explains most of the variation in aquifer levels outside of the irrigation season. Not all consented abstraction is metered yet and this is the most uncertain component of the summer water budget.

Freshwater quantity

Activities that depend upon water resources such as farming, viticulture, commercial forestry, residential activity, transport activity, recreation and tourism, can affect the availability of water resources. The changing nature of some land uses has also had a significant impact on Marlborough's freshwater resources over time.

Marlborough has experienced an unprecedented demand for water for irrigation purposes. More than 1600 water permits authorising the taking of either surfacewater or groundwater have been granted since 1995. The growth in demand has been driven by the expansion of viticulture in Marlborough with the expansion occurring on the Wairau Plain, in the Waihopai and Awatere Valleys and further south. Given Marlborough's climate and soils, the majority of vineyards need to be irrigated to survive. The expansion of viticulture into areas not traditionally irrigated has resulted in the need to access water where there was previously little or no demand. The unprecedented demand for water has been putting pressure on certain water resources.

The monitoring of river flows in Marlborough dates back to the late 1950s while rainfall records at a few sites date back to the early 1900s. These ongoing records are valuable when looking at trends over time, and determining if changes are significant in relation to historical patterns.

River flow and water levels are measured at more than 30 monitoring sites in Marlborough with monitoring occurring at some of these sites for more than 50 years at some sites. These long-term records are now used to investigate the effects of water allocation regimes, flow trends and climate change. Data for eight long-term Marlborough flow sites shows that flows over the last decade, when compared to the long-term average, have all decreased. Flows in all the monitored rivers have been below the long-term average over the past decade. Several factors are putting pressure on our water resources, including climate variability and climate change, change in land use and irrigation.

The extensive monitoring and investigations undertaken by the Council have informed the review of the current resource management plans with respect to the allocation of freshwater resources. The reports of these investigations and monitoring are available on the Council's website and are listed in the Bibliography section of this report.

Natural character of the Marlborough coast

With the specific direction in Policy 13 of the NZCPS to map or otherwise identify at least areas of high natural character, the Council commissioned a technical assessment of natural character values in Marlborough's coastal environment. This was undertaken by Boffa Miskell, with input from Lucas Associates, Landcare Research, the Department of Conservation and the Council. The resulting publication, *Natural Character of the Marlborough Coast – Defining and Mapping the Marlborough Coastal Environment June 2014*, assesses natural character values at different scales, from district to individual bay level. At the more detailed assessment level, the abiotic systems and landforms, biotic systems and experiential attributes were assessed. Freshwater environments are a part of the coastal environment and therefore have been assessed in determining areas with significant natural character values.

Areas with high, very high and outstanding natural character values have been mapped. The areas mapped and the descriptions of the key values that contribute to significant natural character are included within the MEP. The level of information proposed for the MEP will help both resource users and those making decisions on consent applications to determine whether an activity may have an adverse effect on natural character values, including in part on water availability.

The natural character of selected Marlborough rivers and their margins

Unlike the coastal environment, there is no statutory requirement for local authorities to determine the degree of natural character of rivers. However, there is direction through Section 6(a) of the RMA to preserve the natural character of rivers and their margins and to protect them from inappropriate subdivision, use and development.

In 2009 the Council was involved in a study co-funded by the Foundation for Research Science and Technology (FRST) which examined the values of rivers. The FRST study was a nationwide research programme, analysing different aspects of river values, including rivers in Marlborough. Representative samples of the different types of waterbodies in Marlborough were assessed. This included identifying the diversity of smaller streams and rivers, for example in the Marlborough Sounds and within the drier mountainous environments in the south of the District.

Attributes relating to the natural character of rivers were broadly clustered around three components: a river's morphology (namely the river channel), the riparian edge and the wider landscape context. Within these broad attributes, a set of eight attributes were developed for assessment, with water quality considered in relation to a river's morphology.

A five-point scale was used to rank each primary attribute's degree of natural character on a continuum, from (1) heavily modified to (5) overwhelmingly natural, based on natural elements, natural patterns and processes: the higher the rating, the greater the contribution that specific attribute makes to natural character. The report includes the scores for the 39 river/river segments assessed, with a possible total score of 40. Assessment scores for the rivers ranged from 16 and 17 for the Ōpaoa Loop and Tuamarina Rivers (respectively) to 40 for the Goulter River.

Freshwater values

Marlborough has been divided into a series of water resource units based on catchment boundaries. An assessment of the various natural and human use values of the waterbodies in these water management units has been prepared and is included in Appendix 5 of Volume 3 the MEP. This assessment includes values such as ecological, habitat and natural character.

Consultation

Early consultation

In 2006, the first round of consultation was initially undertaken solely for the review of the regional policy statement and saw the distribution of a community flyer to all ratepayers advising of the review. The aim of this exercise was to find out the community's views on the most important resource management issues that Marlborough would face over the next ten years. Approximately 380 responses were received, including comments on water allocation and use.

A large number of respondents expressed very strong concern over the management of Marlborough's water resources and a perceived unsustainable increase in new resources consents being granted to take water from aquifers and rivers for irrigation and frost protection. People expressed concern about further degradation of rivers and waterways and the impact this would have on the ecosystems and way of life that freshwater resources supports.

Many of the responses received identified the need for an allocation plan for freshwater resources to provide certainty to water users, and the responses also suggested ways to prioritise the allocation of water in the face of diminishing supplies. Suggestions included:

- an allocation plan for the Wairau River and an adaptive management regime for other catchments;
- an allocation regime based on end use;
- priority given to uses that require a potable water supply; and
- no water allocated to those who plant grapes with the expectation of the rights to other resources.

Concern was expressed at the allocation of water to single entities to the exclusion of late comers, either uses or users, without any intention of review or reallocation on a shared basis. The need to have an equitable sharing of water when there are restrictions on availability was highlighted. Issues around the effective and efficient use of water both in the rural and urban environment were highlighted and respondents called for the Council to take a stronger stance to ensure this is achieved.

A number of the responses considered storage dams were necessary in areas where summer water resources are inadequate. Some thought that water schemes for irrigation should not be built at ratepayers' expense. Others suggested landowners who had access to a water scheme should have their groundwater water rights revoked (except for where water was to be used for potable supplies.) This was perceived to ensure there was a better recovery of aquifers with dangerously low levels.

There was some comment on specific water resources including the Wairau River and Aquifer and the Rarangi area. Comments included the following:

- That the extremely low levels of the Wairau Aquifer would be exacerbated by the TrustPower scheme. Respondents wanted to ensure the Wairau River's unique qualities would be protected. People said that the water levels during this past summer (2005/2006) had been very marginal and they did not want more water to be taken or allocated given the effects of the current water rights on the river.
- There was a perceived a lack of support from Council for residential water needs in Rarangi. Some respondents stated the interests of vineyard developers were considered to be more important than resident's needs, with vineyards having been developed without first ensuring that water is available to sustain them.
- A concern was also expressed about how to protect the rights of long-term occupants of property in terms of their water supply and quality. It was suggested there needs to be an

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investigation into providing a reliable reticulated water supply for residents at Rarangi and for fire-fighting water supply. It was also suggested an independent survey of the Rarangi shallow aquifer should be carried out to determine its capacity and limitations. The potential for seawater intrusion into the Rarangi Shallow Aquifer was also raised.

Following this initial consultation, a series of discussion papers were prepared by the Council and released for public feedback in late 2007. One of these is particularly relevant to this Section 32 evaluation report: *Discussion Paper 5: Overview on Water Allocation and Use Issues*. In total, Discussion Paper 5 received 49 responses from individuals, iwi, industry groups and environmental groups. Comments received through the feedback commented issues related to the allocation of water in the face of uncertainty, completion for water, over allocation, links between surface and groundwater, water shortages, the effects of water use and seawater intrusion.

In the feedback on the allocation of water in the face of uncertainty respondents indicated that the unprecedented level of demand for water had created uncertainty amongst existing and new water users in terms of reliability of supply. This uncertainty may influence decisions relating to investment and development. The high level of demand has also created concern amongst environmental groups about potential adverse effects on the environment. Other feedback on this issue included the following:

- There was general agreement on the need to have a water allocation framework including the ability to restrict water abstraction in order to be effective. Others felt the framework should recognise specific human uses as significant resources and requested the water supplies to these resources not be compromised. Feedback also supported the identification of values supported by water bodies and on-going monitoring to ensure in-stream values are protected.
- There was some support for a precautionary approach where there is uncertainty about the effect use may have on a water resource. However, there were differences between these respondents in terms of what the precautionary approach meant in practice. Not all supported the approach set out in the discussion paper, which set a default allocation limit, for the reason that it was considered overly conservative and would unnecessarily constrain water use.
- Others tied the issue of “certainty” to an appropriate term of a water permit, albeit for different reasons. Some identified the consent term as a factor in decisions relating to investment and development, and sought longer term permits or a policy provision that permit terms be considered on a case-by-case basis. Others felt that shorter term permits provided certainty because any adverse effects from the exercise of the permit could be addressed on application for a replacement consent.

There was general agreement that the increasing competition for water has led to conflict within the community. There was a level of support for an alternative to the “first-in first-served” method of water allocation; the support was particularly evident in responses from people in the Awarere and Flaxbourne catchments. The alternatives put forward by respondents were all based on a points weighting system; however, there were differences amongst them in terms of how the points should be allocated. Collectively, the suggested alternatives identified certain matters that any regime should base a points calculation on, including the best suited crops for soil types and climate; uses deemed to be most necessary; historic land use; efficiency of use; and productivity return on use.

Other comments made on there being increased competition for water included:

- Some respondents suggesting that priority be given to crops and pasture over grape irrigation while others suggested best practice and efficient use methodologies before the viticultural industry being prioritised over more intensive water uses. Other respondents did not support a priority based system because it may generate problems within the community. Some stated a preference for the status quo, i.e., the first-in first-served allocation system.
- Some people identified a relationship between this issue and the issue of efficient water use and suggested water usage be closely monitored to identify under-utilisation, with a view to reallocating unused water to other users.

- There was some support for a charge or resource rental applied to all non-public water allocations or, alternatively, to allocations over a specified level. Some saw a charge as a means to incentivise efficient water use. Others suggested the monies collected could be returned to the community or used to fund research on the water resources, improve community knowledge and inform allocation regimes in the future.

There was general agreement that over-allocation should be corrected. Concern was expressed on the status of various water resources, particularly the Lower Wairau River. Some respondents questioned whether there were links between observed low river/aquifer levels and the current level of allocation. Several people said that the regional policy statement should clearly describe how the process of clawback is to be implemented in order to provide greater certainty to resource users. However, others were opposed to the “claw-back” of allocation. An alternative option was suggested of promoting the transferability of water permits, which was believed to ensure that the resource is applied to activities that most need water at any given time. Another suggested alternative was the development of community water supply schemes.

The issue of the relationship between surface water and ground water received the least feedback. The comments indicated acceptance of the importance of the link between surface water and groundwater but also illustrated the lack of knowledge about the nature of this relationship. For some, this meant that it was difficult to apply management options. Others expressed a desire for the management of water resources that are connected to be more transparent. A common request was for the regional policy statement to commit the Council to conducting further investigations, with the greatest priority given to studies of the interface between the Wairau River and Wairau Aquifer, especially the link with spring fed streams on the Wairau Plains.

There was general agreement that water shortage is a significant issue for Marlborough and that the storage of water was seen as the solution. The views expressed about water rationing covered the following:

- intervention, in terms of reducing water takes should occur early if it is possible to forecast droughts;
- water takes could be “rationed” as minimum flows are approached;
- provide water users with greater control of rationing although others felt this approach could not be relied upon or it would be impractical to implement;
- rationing above minimum flows may adversely affect hydro-electric power generation infrastructure; and
- community water supplies should be afforded priorities during times of drought stress.

Some respondents commented that water shortages could be avoided by more careful management of residential subdivision and development in water-short rural areas. Several people suggested that the Council should investigate other sources of water as a way to deal with water shortages

There was a large level of support for the inclusion of an objective of efficient water use in the regional policy statement, accompanied by an explanation of what ‘efficiency’ means in this context. For most people, efficiency meant that water allocation should not exceed what is considered to be “reasonable” for the intended uses, and that wastage of water is avoided so that available water can be spread between as many users as possible. Several people sought the fair and equitable application of the principle of reasonable across all users, not just rural/irrigation users.

Other feedback on the effects of water use included the following:

- Concern was expressed in respect of instances where the initial allocation exceeds actual crop requirements. The excess water could be transferred to another user, i.e., “sold for profit”; effectively allowing people to queue jump.
- There was acknowledgement that, even with a paper allocation reflecting a reasonable use requirement, the actual rate of use will be a proportion of the paper allocation. There was also support for moving to a seasonal method of allocation.

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- Two organisations supported stronger incentives to encourage more efficient use of water. For example, the wine industry, in contrast to other primary producers, placed emphasis on establishing best practice on efficient water use to ensure that no more than the optimal amount of water required is used and wastage is avoided.
- Several people sought the discouragement of land uses that require large amounts of water. Others stated that the Council should not be picking winners and suggested that the market will determine the best use of water.
- There was agreement there are significant benefits in metering water takes, especially in terms of providing resource information to help with the management of the resource. Other advantages were that metering is necessary to ensure compliance with the conditions of water permits and that it provides water use information to users, which helps avoid wastage. Several people suggested a move toward pulse emitting meters and telemetered data loggers so the Council has real time data on water use.
- There were also suggestions for using meter readings as the basis for future replacement allocations. A similar suggestion was for water use to be monitored so that changes in land use (and therefore water demand) could trigger a review of the water allocation to ensure optimal distribution of the resource. Several people supported the reallocation of the unused water entitlement.
- Several users in the Flaxbourne area suggested that the permitted activity rules for stock and domestic use were excessive for water-short areas and requested that allocations be reduced. It was also suggested the cumulative effects of stock and domestic takes on small streams should be considered.

In commenting on the issue of the potential for seawater intrusion there appeared to be a high level of awareness of the Council's existing initiatives to prevent saltwater intrusion along the coastal margins of the Wairau Aquifer. There was general agreement that this was a significant issue along the coastal margin and recognition that salt water contamination is easier to prevent than reverse. There was very little in the way of any other comment on this issue, other than the suggestion that sea level rise associated with climate change might also have an effect.

On the issue of security of supply for community supplies there was general agreement that community water supplies should be given special recognition due to the contribution they make to the wellbeing of the District. The New Zealand Defence Force noted a decline in the overall supply of water from Base Woodbourne's wells, particularly during summer, and also supported recognition being given to community water supplies through the regional policy statement. In addition a community health organisation requested that community water supplies be excluded from any restrictions. In contrast, an environmental organisation, while supporting the direction in the discussion paper, identified that the approach should not be unconditional as there still needed to be protection for instream values.

Many people took the opportunity to provide anecdotal information on the state of water resources in Marlborough, with reduced river flows and falling aquifer levels a common theme. Those concerned about groundwater levels were commonly long-standing domestic users who had noticed dropping well levels, which was believed to be in response to increased irrigation abstraction from local aquifers.

There were numerous comments expressing concern over the "trading" and "privatisation" of public water resources. Several respondents were opposed to the transfer of water permits between users and/or the potential to "sell" the water. This concern extended to community water supply schemes, with several people arguing that they must be owned and operated by the community, not individuals.

Several respondents expressed concern about the impact of afforestation on water yield. It was suggested there should be more integrated management of land and water use to deal with any such effects. One forestry company wanted to emphasise that restricting pine plantations has a limited effect on catchment water yield. It was felt that they are unfairly regulated when water users downstream gain considerable financial benefit through securing water permits.

Later consultation

In 2012, the Council held a two day water forum to commence discussions with the community about the future of water allocation in Marlborough. The forum included information on the current status of the District's water resources, the challenges ahead, legislative/central government requirements, possible options and water user's perspectives. The forum offered many high calibre speakers, including experts in land and water reform, hydrology, resource management law, policy, economics, modelling and water use/crop requirements. In addition, the forum was enhanced by contributions from water users, industry and practitioners.

Following the forum, a working group was formed to assist the Council in developing the future water allocation framework. The Water Allocation Working Group (WAWG) included different types of irrigators (viticultural, pastoral, horticultural), users of different water resource types (groundwater and surface water) and users from different locations throughout Marlborough. The group was assisted by Council staff and experts in freshwater management. A sitting Councillor was also on the group.

The WAWG identified options for addressing a range of issues, including new issues identified as a consequence of legislation, the NPSFM or as part of the work done by the WAWG. These new issues included full allocation of water resources, allocative efficiency, over allocation of water resources, setting of limits, equitable access to water and effects of afforestation on water yield. However, some existing issues were still apparent and needed to be addressed, including access to reliable supplies of water, the effects of groundwater takes on surface water resources and demand for water being greatest when river flows and aquifer levels are at their lowest.

In early 2015, a second Water Forum was held. Approximately 1100 water resource users were advised of the forum and the opportunity to hear the proposals developed for managing water allocation and use in the future. The Forum was followed by 14 community meetings that focussed on management proposals for specific water catchments/aquifers. A presentation was made on the issues relevant each specific water catchment/aquifer, which was made available on the Council's website. Also made available for feedback were the objectives, policies and rules for water allocation.

A series of one-to-one meetings with the Department of Conservation, Fish and Game Nelson Marlborough, Federated Farmers, Marlborough Forest Industry Association, Trustpower Limited and the Iwi River Advisory Committee. There were also many phone calls and meetings between Council staff in both the Policy and Science Departments and members of the public as an outcome of the community meetings.

The Council sought feedback through the community meetings and approximately 85 responses were received. This feedback has helped to refine the provisions for water allocation that have been included within the MEP and included feedback on the reasonable use test, setting limits, storage, enhanced transfer, over allocation and afforestation controls. An overview of the issues raised through the feedback included the following:

- Water users raised concerns about the change of the Waihopai Freshwater Management Unit (FMU) and the Lower Waihopai FMU boundary associated with their water permits because of a change in boundaries. They also highlighted the potential for a change in restrictions to be applied to their activities based on the boundary change.
- Water users questioned why reliability could not be 100%, especially in under allocated resources. There was some lack of understanding about the consequences of the proposed approach, e.g. some users thought 1 year in 10 they would have no water rather than 1 year in 10 only having enough to meet 90% of the plants water use requirements. There was also a perception by many users that they already had 100% reliability whereas, for the most part (viticulture), the WARMP only provides for 80% reliability.
- Aquifer water users showed a preference for annual allocations for water use so they were able to use water if and when they chose to within the irrigation season. Alternatively, some users questioned whether unused monthly allocations could be carried over to subsequent months.
- Water users on the Plains sought to be able to put aquifer water abstracted via their consents into storage.

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- There was interest in the possibility of damming surface water flows in the foothills of the Southern Valleys.
- There was considerable concern about the proposed management for the Spring Creek area in particular. This included what the environmental flow should be, and how it should be determined, as well as equity concerns relating to the impact of water users to the west on flows in the springs.
- Fish and Game expressed a view that the environmental flows for almost all the District's surface waterways should be based on the Proposed National Environmental Standard on Ecological Flows and Water Levels (2008) for Determining the Minimum Flow.
- Short-term allocation integration with long-term water allocation.
- Some of the Marlborough Sounds waterways such as the Rai, Pelorus and Kaituna Rivers, currently have a short-term allocation and a long-term allocation. The proposal is to merge the two which is opposed by Fish and Game.
- Fish and Game did not support the proposed management for the Wairau River, in particular, the proposed changes to the flow sharing regime and the lack of a change to the minimum flow.
- During the consultation several options for management were discussed, as well as the potential spatial extent to which management should be applied.
- Many water users raised concerns about the monetisation of water as result of the introduction of the enhanced transfer system. There was strong feeling expressed that there should be no money involved in transfers. One alternate view was expressed by Federated Farmers who strongly advocated for a trading regime involving the exchange of money.
- A priority of allocation for industrial, hydroelectric power generation and food production was highlighted by several parties. Priorities were set out in draft policy and (a) to (d) of the policy covered instream values, aquifer recharge, and domestic, stock and municipal water supplies. The last priority (e) covered all other takes of water. It is this last priority for which issues have been raised. Feedback from people or organisations associated with industrial water use, hydroelectric power generation and food production all sought to have specific allocations for their water uses separately provided for, and at a higher level than others covered by (e).
- It was proposed to reduce the permitted activity dam size down from 20000m³ to 5000m³ to better reflect the purpose of the enablement, stock water supply. The issues raised in consultation were not about the decrease in water volume, as 5000m³ is reasonable for the purpose, but the secondary effect that the change would have on the construction of off-stream dams, i.e. dam structures with a capacity greater than 5000m³ would require resource consent.
- The use of incidental water use (e.g. vehicle washing, small scale spraying and line flushing) was raised as an issue as there were concerns that very minor water uses, particularly outside of the irrigation season, might technically require consent under the proposed provisions but the nature of the water use is so minor that this would be an unsatisfactory outcome.

In terms of the proposals for setting limits for the Awatere, Flaxbourne, Havelock, Rai/Pelorus, Riverlands, Southern Valleys, Tuamarina River, Wairau Aquifer (Coastal), Wairau Aquifer (Recharge) and Wairau River areas, no significant issues were raised by water users and in some cases no feedback was received. Other feedback on the limits included the following:

- In the Southern Springs catchment most respondents agreed with proposed minimum environmental flow, while water users in the Waihopai/Omaka area only raised concerns in the Lower Waihopai area. This concern related to changes to the boundaries of the water resource area they were in, and the associated change of restrictions. Fish and Game New Zealand – Nelson/Marlborough Region (Fish and Game) supported the imposition of the Wairau River minimum flow on Waihopai River water permit holders. Fish and Game also questioned whether Wairau River minimum flows should be applied to Wairau Aquifer permits that affect Wairau River flows.

- Water users raised several issues in the Wairau Aquifer (Springs) are including the lack of science behind proposed limit, the impact of irrigators to the west and equity concerns regarding the extent to which restrictions apply.
- For the Wairau River only Fish and Game raised concerns with the proposed regime over both allocation and environmental flow limits. However, they supported the setting of allocation and environmental flow limits for Northbank tributaries.
- Federated Farmers supported restrictions on the exercising of water permits when applicable environmental flows and/or levels are reached, and especially exclusion of stock water takes from having these limits applied.

Evaluation for Issue 5A

Issue 5A – The diversity of water resources makes it difficult to achieve uniformity in water allocation and water use management regimes across the District.

Appropriateness of Objective 5.1

Objective 5.1 – Water allocation and water use management regimes reflect hydrological and environmental conditions within each water resource.

Relevance

If the management applied to the taking and use of water does not reflect the hydrological and environmental conditions that exist in each water resource, one of two things may happen: water users could be unnecessarily restricted in taking or using that water, or taking and use of water may result in adverse effects on the natural and human use values supported by the freshwater resource. These are inappropriate outcomes given the value of water in terms of its contribution to social, economic and cultural wellbeing and its life-supporting capacity. It is therefore essential that the management applied to any water resource is fit for purpose in order to achieve sustainable outcomes. The objective is therefore directly relevant to the resource management issue in 5A, which identifies that the diversity of water resources in Marlborough makes it difficult to apply uniform water management across the District.

The objective is focussed on achieving the purpose of the RMA. In particular Sections 7(b) *the efficient use and development of natural and physical resources* and 7(g) *any finite characteristics of natural and physical resources* are matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. Objective 5.1 also assists the Council in carrying out its statutory functions under Section 30 of the RMA in relation to establishing rules for the allocation of water.

In terms of high level documents, the objective is consistent with the provisions of the NSPFM.

Feasibility

Objective 5.1 is feasible as the Council has already established separate regimes for many of Marlborough's water resources. Some of these regimes have been in place for over a decade. The objective supports the expansion of this approach, which capitalises on investment already made. The costs of establishing new regimes are not significant and are within the powers, skills and resources of the Council. Given the Council's past experience in establishing separate regimes for managing water resources, there is an acceptable level of uncertainty and risk associated with achieving Objective 5.1.

Acceptability

The approach of establishing management regimes for water resources that reflect the particular characteristics of the water resources is consistent with the views expressed by the community during early consultation but was also evident through the later consultation. Many of the comments received on the discussion paper included specific suggestions for managing specific water resources highlighting that there was an awareness of issues occurring, or the potential for them to occur, within specific areas.

The later consultation undertaken by the Council reflected the need to have management regimes for specific water resources. Following a Water Forum in 2015 the Council began the process of reporting back to the community on the development proposals for managing water allocation and use in the future. This included holding 14 community meetings that focussed on the management proposals for specific water resources. There was wide spread acceptance of this approach by those attending the meetings and those providing feedback.

It is not considered that this approach will result in unjustifiably high costs on the community or parts of the community. Targeting management regimes to deal with specific issues in specific freshwater management units is a more efficient and effective approach to sustainably managing Marlborough's water resources.

Assessment of provisions to achieve Objective 5.1

Policy 5.1.1

Policy 5.1.1 – Define and use freshwater management units to apply appropriate management to the taking and use of water within each water resource.

Benefits

To ensure that the management applied to the taking and use of water is appropriate to the hydrological and environmental circumstances, it is necessary to distinguish between the different catchments and aquifers that exist in Marlborough. The Council will achieve this by identifying Freshwater Management Units (FMUs), which will be based on the hydrological characteristics of each water resource and the natural and human use values supported by the waterbody/bodies. These freshwater management units are identified in Appendix 6 and Maps 1 to 5 of the MEP.

The use of FMUs supports the integrated management of surface water and groundwater. This approach also gives effect to the National Objectives Framework of the National Policy Statement Freshwater Management 2014 (NPSFM), which requires the Council to identify freshwater management units.

Costs

There are initial costs in investigating and establishing FMUs, however these costs have not been significant as in-house Council resources were used for the most part. There will be ongoing management and monitoring associated with each FMU and the scale of those costs will relate to the complexity of each particular FMU. The newly established FMUs may differ from previous areas/catchments so there is the potential for increased costs for water users if the management regime for the FMU differs from that previously applied to the water resource they access. There could also be less cost for the same reason.

Efficiency

The benefits to individuals from the identification of FMUs, and providing certainty as to where and what management applies to each resource, are greater than the potential costs of establishing of FMUs. The benefits to the environment from establishing FMUs outweigh the potential costs to individuals or actual costs to the Council. The process of establishing FMUs results in management applying to every water resource in Marlborough therefore there are no gaps and no ambiguity.

Effectiveness

The FMUs are identified based on water resource characteristics, therefore resource specific management can be applied that is appropriate and protects the values of the resource. This means that Policy 5.1.1 will be effective in achieving Objective 5.1 as without this approach there could unsustainable outcomes in the management of freshwater resources.

Policy 5.1.2

Policy 5.1.2 –Recognise that the taking of water and the use of water are two distinct activities and where resource consent application is to be granted, separate water permits for each activity will be granted.

Benefits

The approach taken through Policy 5.1.2 is consistent with the treatment of a water take and a water use as separate activities under s14 of the RMA. This is because the two activities have different potential adverse effects on the surrounding environment. The adverse effects of taking water tend to relate to the direct or indirect effects on the natural and human use values supported by the waterbody from which the water has been taken and on other people taking water from that resource. The efficiency of water use is a relevant consideration for the use of water, especially as the resource from which the water has been taken approaches full allocation. In these circumstances, inefficient water use could potentially deprive other users from accessing the water resource.

Issuing separate consents facilitates the application of appropriate management for these two distinct activities. The distinct adverse effects of each of the activities will be managed through the separate applications. The direction given by this policy provides guidance for applicants, planners and decision makers.

Costs

The treatment of take and use as separate activities for which permits are issued has the potential to increase resource consent documentation, which could be an additional cost to an applicant. However, this cost is not new as the approach taken by this policy reflects current practice. For the same reason, there will be no additional management or compliance costs for the Council.

Efficiency and Effectiveness

From a water management and administrative perspective, the benefits of issuing separate take and use permits significantly outweigh any minor potential costs. The taking of water and the use of water have different effects and by separating the activities through the issuing of individual permits, management regimes can be targeted and applied in the most appropriate manner. This further assists in achieving Objective 5.1 through specific consideration of the take and use components of an application in relation to the specific water resource under consideration. Additionally, this means that Issue 5A is addressed with recognition of the difficulties in achieving uniformity in water allocation across Marlborough.

Evaluation for Issue 5B

Issue 5B – The taking, damming or diversion of water can compromise the life-supporting capacity of rivers, lakes, aquifers and wetlands.

Appropriateness of Objective 5.2

Objective 5.2 – Safeguard the life-supporting capacity of freshwater resources by retaining sufficient flows and/or levels for the natural and human use values supported by waterbodies.

Relevance

Marlborough's freshwater bodies sustain a diverse range of natural and human use values. These values include the cultural and spiritual values of Marlborough's tangata whenua iwi; opportunities for passive and active recreation; the provision of habitat for indigenous flora and fauna, trout and salmon; a contribution to Marlborough's distinctive landscape and natural character; and the provision of a source of drinking water. Marlborough's freshwater bodies are also used as an important source of water for a range of uses, including irrigation, industrial, commercial and frost fighting. This water use relies on the taking, damming or diversion of water. These activities all have the potential to change the characteristics of the flow or level of water in a waterbody.

Although natural and human use values have some resilience to natural changes in water flow and/or level, the taking, damming or diversion of water have the potential to significantly change the flow or level characteristics of waterbodies. Such changes can adversely affect the natural and human use values that rely on the water in the waterbody. Those effects could be as a result of one person's activity or the cumulative effect of multiple water users. The effects could be experienced in the short-term but also have the potential to become permanent, for example where there is a loss of habitat.

The natural and human use values supported by Marlborough's freshwater bodies are important to retain given their contribution to the social, economic and cultural wellbeing of the community. In

addition, the values can also have significance as a matter of national importance under Section 6 of the RMA, which must be recognised and provided for. Objective B1 of the NPSFM also requires the life-supporting capacity, ecosystem processes and indigenous species to be safeguarded. Objective 5.2 reflects the need to safeguard the life-supporting capacity of Marlborough's freshwater bodies when managing the taking, damming or diversion of water and therefore clearly addresses Issue 5B.

Feasibility

Objective 5.2 is feasible as the Council has already established regimes to retain sufficient flows and/or levels in many of Marlborough's water resources. Some of these regimes, such as for the major rivers, have been in place for over a decade. Other regimes, such as in the Southern Valleys, have been in place in a voluntary capacity until the proposed formalisation in the MEP. The objective supports the expansion of the existing management, which capitalises on investment already made. The costs of establishing new or altering existing regimes are not significant and are within the powers, skills and resources of the Council. Given the Council's past experience in managing water resources to maintain flows and levels that safeguard the life-supporting capacity of the waterbodies, there is an acceptable level of uncertainty and risk associated with achieving Objective 5.2.

Acceptability

The approach of establishing management environmental flows and/or levels, which include allocation limits and minimum flows/levels, for water resources that reflect the particular characteristics of the water resources is consistent with the views expressed by the community during early consultation but was also evident through the later consultation. Many of the comments received on the discussion paper included specific suggestions for managing specific water resources highlighting that there was an awareness of issues occurring, or the potential for them to occur, within specific areas.

The later consultation undertaken by the Council reflected the need to have management approaches tailor-made for each water resource. Following a Water Forum in 2015 the Council began the process of reporting back to the community on the development proposals for managing water allocation and use in the future. This included holding 14 community meetings that focussed on the management proposals for specific water resources. These proposals included allocation limits and minimum/management flows, i.e. water resource specific restrictions that would be applied to water users. There was wide spread acceptance of this approach by those attending the meetings and those providing feedback, with perhaps the exception of water permit holders in the spring-fed streams area of the Wairau Plains (although this was often more of a concern about equity than proposed environmental limits themselves).

It is not considered that this approach will result in unjustifiably high costs on the community or parts of the community. Targeted water management on a resource-by-resource basis is an efficient and effective way to address the Issue 5B, which is to ensure the taking, damming or diversion of water does not compromise the life-supporting capacity of water resources.

Assessment of provisions to achieve Objective 5.2

Natural and human use values

Policy 5.2.1

Policy 5.2.1 – Maintain or enhance the natural and human use values supported by freshwater bodies.

Benefits

The natural and human use values supported by freshwater bodies in Marlborough are varied, reflecting the diversity of water resources highlighted in Policy 5.1.1. The natural and human use values supported by different waterbodies in Marlborough are identified in Appendix 5 of the MEP.

Some proposals to take, dam or divert water can involve site specific adverse effects on natural and human use values. Policy 5.2.1 allows those potential adverse effects to be considered in the determination any application for resource consent to take, dam or divert water.

Costs

Any management applied to a freshwater body has the potential to have costs, however the protection of the natural and human use values of waterbodies is of the highest priority. The cost to the values held for waterbodies of not managing them for maintenance and enhancement, is greater than any

potential cost to an individual water user as a result of the establishment of a minimum flow or water level. In addition, most freshwater management is already in place and is not altered as a result of the review of the MRPS and resource management plans and this minimises the impact of the application of Policy 5.2.1 on water users.

Efficiency

Given the high priority for the protection of the natural and human use values of waterbodies, the cost of inappropriate management to the District could be substantial, including social, cultural and financial costs. Many people use waterbodies for recreational purposes, including direct use of the water (e.g. kayaking, swimming), fishing and other food gathering and indirect use of the waterbodies (e.g. walking, mountain biking). The waterbodies are culturally significant to Te Tau Ihu iwi, they are the link from mountain to sea, a place for food gathering and spiritually important sites. Waterbodies are also the source of water for direct and indirect human consumption. The costs of not applying appropriate waterbody management to protect these, and other values, are greater than any potential costs to an individual water user of the establishment of a minimum flow or water level.

Effectiveness

This policy is effective in supporting the objective as it makes it clear that the maintenance and enhancement of natural and human use values is the bottom line. If values are being maintained and enhanced, then the life-supporting capacity of freshwater resources should be safeguarded.

Policy 5.2.2

Policy 5.2.2 – Give priority to protecting the mauri of freshwater and freshwater flows/levels.

Benefits

Mauri is the term used by Marlborough's tangata whenua iwi to describe the cultural concept that all natural resources have a lifeforce. This lifeforce (wairua) is derived from the physical attributes of the resource as well as the spiritual association iwi have with natural resources. Water is considered to be particularly significant to iwi in this regard as it sustains all life. The mauri of freshwater and freshwater flows is part of the natural and human use values for freshwater bodies. Each awa (river) has a mauri of its own. It is an entity with which iwi identify. Tangata whenua often refer to the river as a taonga (treasure) and in doing so denote their relationship to the entire river system, not to any one part.

Marlborough's tangata whenua iwi have expressed concern that the taking, damming or diversion of water can adversely affect the mauri of water. Of particular concern is the impact of reduced flow on the ability of each iwi to support traditional uses and values. Given the whakapapa link between Māori and water, the flows/levels in waterbodies are a reflection of the health of the tangata whenua. Marlborough's tangata whenua iwi wish to avoid making any waterbody waimate (where water flow/level becomes so degraded that it loses its mauri). This policy therefore requires priority to be given to protecting the mauri of freshwater and freshwater flows/levels.

Policy 5.2.2 is also supported by Policy 5.2.4, which sets out the purposes for which specific environmental flows and/or levels for rivers, lakes and wetlands limits have been set (including protecting mauri), and Policy 5.3.1, which identifies natural and human use values as holding the highest priority when allocating water resources. Protecting the mauri of freshwater benefits the whole community.

Costs

Minimum flows or levels set for freshwater bodies take into consideration natural and human use values of each entity, including protecting the mauri of freshwater and freshwater flows. Most freshwater management is already in place and is not altered as a result of the review of the MRPS and resource management plans.

Statutory Acknowledgements for eight of the Te Tau Ihu iwi provide information about the relationship of iwi to specific awa, this will be important information to water permit applicants in the future and has the potential to add costs to the resource consent process either through the assessment of effects on mauri or the imposition of restrictions related to the protection of mauri. These potential costs are unknown as it is unknown what water permits will be sought in the future. The Iwi Working Group considered all aspects of water management proposed in the MEP and have been satisfied that the existing and proposed regimes appropriately protect the mauri of freshwater.

Efficiency

The benefits of prioritising the protection of mauri are felt by the whole community, whether by iwi gathering kai or freshwater flows supporting recreational activities. The costs are not anticipated to significantly change as a result of this policy as much of the management is unchanged. Some additional individual costs may occur in the future depending on what new activities require a consent to be sought but these costs are not likely to outweigh the benefits of the protection of mauri for the whole community.

Effectiveness

Protecting the mauri of freshwater and freshwater flows directly reflects the objective of safeguarding the life-supporting capacity of freshwater resources. The implementation of this policy through the setting of minimum water levels or flows will be very effective in supporting the overarching objective of ensuring management regimes are sufficient to support natural and human use values, which include the mauri of freshwater.

Policy 5.2.3

Policy 5.2.3 – Protect the significant values of specifically identified freshwater bodies by classifying the taking, damming or diversion of water in these waterbodies as a prohibited activity.

Benefits

There are freshwater bodies in Marlborough that are in an unmodified state or a state close to unmodified. These waterbodies retain high or very high natural character. In these circumstances, it is considered appropriate to preserve the natural character by preventing the taking, damming or diversion of water. If they are not protected from the effects of human use and those values are lost, they are likely to be lost forever. Given their significance, the prohibition of activities that are unlikely to support those values is of both human and intrinsic benefit. This is reflected in regional rules that prohibit specific activities in the waterbodies that have been identified as having significant values. Protection of these types of waterbodies will mean their values are still here for future generations to appreciate and benefit from.

Costs

The significant freshwater bodies from which the taking, damming or diversion of water is prohibited in the MEP are already managed under the same approach in the WARMP therefore no new costs are anticipated. (The MSRMP has not identified any significant freshwater bodies for which the taking, damming or diversion of water is prohibited.) Any new limitations as a result of this policy have the potential to cost an individual the future benefit of using land if the potential land use would have required water. However, that potential cost may be able to be mitigated by accessing alternative water sources. Regardless, it is a future potential use that is unknown and not readily quantifiable. The very real benefits of protecting the significant values of significant freshwater bodies as proposed through the MEP outweigh the potential unknown future costs to a limited number of individuals.

Efficiency

For the most part the proposed prohibitions are not new and therefore significant costs are not anticipated. Even if individuals incur costs through loss of opportunity, these are considered to be outweighed by the benefits to the community, and to future generations, of protecting significant freshwater bodies. As much as the future opportunity cost to an individual is unknown, so are all the future benefits that one of these waterbodies may hold – if the values are compromised now, they may be lost for good.

Effectiveness

For the significant freshwater bodies identified as requiring a prohibition on some activities, it has been determined that to retain a sufficient flow and/or level to support natural and human use values, and therefore safeguard the life-supporting capacity of the resource, no amount of water take, damming or diversion is appropriate. This policy is directly effective in achieving Objective 5.2 and in addressing Issue 5B.

Setting of Environmental Limits

Policy 5.2.4

Policy 5.2.4 – Set specific environmental flows and/or levels for Freshwater Management Units dominated by rivers, lakes and wetlands to:

- (a) protect the mauri of the waterbody;
- (b) protect instream habitat and ecology;
- (c) maintain fish passage and fish spawning grounds;
- (d) preserve the natural character of the river;
- (e) maintain water quality;
- (f) provide for adequate groundwater recharge where the river is physically connected to an aquifer or groundwater; and
- (g) maintain amenity values.

Benefits

Policy B1 of the NPSFM requires the Council to set environmental flows and/or levels for all FMUs. An environmental flow or level includes an allocation limit and a minimum flow or level. This is a complex task given the diversity in the natural and human use values supported by rivers, lakes and wetlands and the variation in the flow/level required to maintain those values. This policy sets out the matters that have been considered in the process of setting the environmental flows/levels established in the MEP.

This policy provides greater detail of what the natural and human use values are that Objective 5.2 refers to, and makes a clear link to their importance when setting environmental flows and levels. The benefits of identifying the values are that the link can be made between the science of setting the level or flow limit and what those limits are designed to achieve. While in many cases protecting for one type of value may have the effect of protecting another, sometimes waterbody specific characteristics or human uses may impact on some aspect of the limit. The list, (a) to (g), in this policy assists potential new water users to understand what is being protected by a flow or limit management regime, which may be relevant for their proposed activity and the assessment of the effects of that activity. The policy also provides reassurance to the community that all of these values are taken into consideration when setting limits.

Costs

The majority of environmental flows and levels in the MEP are the same as those in the previous resource management plans, although in some cases perhaps expressed differently. The limits that are unchanged took into account the matters expressed in this policy either when they were originally set or during the review of the flows and levels for the purposes of the MEP. Therefore, there are not anticipated to be widespread new costs associated with this policy. The NPSFM requires the Council to set environmental flows and/or levels for all freshwater bodies so in that respect, for those waterbodies previously without formal WARMP/MSRMP limits, the decision whether to set limits or not has been made by central government. For new flow or level limits, this policy assists with establishing what those limits should be. As the relevant cost to consider is the cost of the manner in which the limit is set, rather than the cost of setting a limit at all, it is considered that the potential cost to an individual is not unduly high relative to the community and intrinsic benefit of protecting the range of values expressed Policy 5.2.4.

Efficiency

Policy 5.2.4 recognises that the Council is required to set environmental flows and/or levels, and assists those setting limits by laying out what values need to be provided for. The community has been involved in part in the setting of most of the limits, either during the lives of the MSRMP or WARMP or through consultation undertaken for the review. For some waterbodies, a default limit is proposed in the MEP as there is not enough information to set a specific limit, this policy will assist the community and the Council in the future should there be a need to establish a specific limit for one of these waterbodies. This enhances the efficiency of the policy as future water users will know up front what matters will be considered when setting the limit. The limited costs from Policy 5.2.4 on what is likely to be a small number of water users is outweighed by the benefits achieved by having this policy to assist with setting limits.

Effectiveness

This policy achieves Objective 5.2 by setting out how the Council and the community can ensure they are retaining sufficient flows and/or levels to support the natural and human use values of waterbodies. It is also effective in providing a link to the natural and human use values for individual water management units, as identified and described in Schedule 1 of Appendix 5 in Volume 3 of the MEP. These waterbody specific values provide a localised manifestation of the natural and human use values referred to in Objective 5.2, and have been used to review and/or set limits for the MEP.

Policy 5.2.5

Policy 5.2.5 – With the exception of water taken for domestic needs or animal drinking water, prevent the taking of water authorised by resource consent when flows and/or levels in a Freshwater Management Unit are at or below a management flow and/or level set as part of an environmental flow and/or level set in accordance with Policy 5.2.4.

Benefits

The policy provides clear direction that water users will not be able to continue taking water once waterbody flows and/or levels reach the management flows/levels established in the MEP to protect the minimum flows/levels. Any such abstraction would result in an adverse effect on the life-supporting capacity of the waterbody. The policy will be implemented by way of a condition(s) of resource consent. There is an exception for water taken for domestic needs or animal drinking water given there is significant social and community wellbeing resulting from these takes.

Costs

Most of the management flows/levels in the MEP were either in the previous resource management plans or were informally applied on a consent-by-consent basis. For this reason, there are not anticipated to be widespread additional costs to those foreseeable over the past 10-20 years. As the NPSFM requires environmental flows and/or levels to be set for all FMUs, and FMUs to be established to cover the whole region, there will be isolated areas where a restriction may not have been imposed in the past and it will be under the MEP. In these circumstances, individual water users may face a potential cost by way of insufficient water to directly irrigated their crops or access water for other uses. Costs could arise through the storing of water, accessing alternative supplies or through crop or production losses. While management flows and/or levels require water users to make their own risk assessments, in general the restrictions would only come into place during sustained periods of low rainfall.

Efficiency

The management flows and levels are fundamental to protecting the natural and human use values supported by the region's water resources. Applying restrictions to all water users within the same FMU that are taking water under the same circumstances is equitable, as is having management flows and levels for all waterbodies. The benefits of this policy to all of the community are greater than the potential costs to a small number of individuals that have not previously had restrictions.

Effectiveness

This policy assists in achieving Objective 5.2 has, once environmental flows and/or levels have been established, this policy ensures that water users that require a resource consent for their activity are appropriately restricted relative to those limits. By ensuring water users activities are managed through consent conditions, this policy supports the objective of safeguarding the life-supporting capacity of freshwater resources.

Policy 5.2.6

Policy 5.2.6 – For rivers, establish whether the flow has reached the management flows set in the Marlborough Environment Plan on the basis of 24 hour averages (midnight to midnight).

Benefits

Policy 5.2.6 establishes the basis on which management flows for rivers will be administered, this provides certainty for water users. A 24 hour average evens out short-term fluctuations in river flow and represents a pragmatic time period. Any shorter period is not administratively efficient as water users could be required to cease abstraction multiple times within a day while the flow fluctuates

above and below the relevant management flow. Midnight to midnight reflects a working day and the timing allows water users to make decisions for managing their operations on the following day.

Costs

The costs relating to this policy centre around the potential cost to instream biota from applying a 24 hour average rather than a real time restriction. There is the possibility that river levels may drop below the management flows but the restrictions would not be imposed until the following day. However, using a shorter period would be unlikely to be practicably enforceable for the Council or water users, which would pose a similar potential risk to instream biota. This approach also carries a potential cost for water users as they may be restricted based on the previous days 24 hour average, but river flows may have increased to above the management flows on the actual day they are restricted.

Efficiency

While there is the potential for costs to instream biota and to water users, when all contributing factors are considered, those costs are outweighed by the benefit of having a process that will be workable. In essence, the response to the effects of a flow dropping to below the management flow will be delayed for up to 24 hours, however this has the potential to have either positive or negative effects on the instream biota and water users. In any case, the costs are not greater than the benefits.

Effectiveness

Objective 5.2 seeks the retention of sufficient flows and/or levels to support the values of a river, this policy is effective in that it provides the practical method in which the Council intends to ensure those sufficient flows are retained. As outlined above there is the potential for very short periods within a day in which flows are below the management flow but abstractions are still taking place, however these incidences are not considered significant enough relative to other considerations for this policy to be ineffective in achieving Objective 5.2.

Policies 5.2.7 and 5.2.8

Policy 5.2.7 – Where there is insufficient environmental data to establish the flow requirements of natural and human use values, use a default minimum flow of 80% of the seven day mean annual low flow for rivers with a mean flow greater than 5m³/s and 90% of the seven day mean annual low flow for rivers with a mean flow less than 5m³/s.

Policy 5.2.8 – Consider proposals to set a minimum flow for a river that varies from the default minimum flow established by Policy 5.2.7 on a case-by-case basis, including through the resource consent process. Policies 5.2.1 to 5.2.4 will be utilised to assist the determination of any such proposal.

Benefits

Policy B1 of the NPSFM requires the Council to set environmental flows for all FMUs, which includes minimum flows. The Council monitors flow in rivers from which there is a demand for water, but does not necessarily monitor flow in rivers from which there is no or little demand. In some cases, this means that there is insufficient hydrological information and other relevant environmental data to establish a specific minimum flow for the river. In these circumstances, a default has been applied to meet the requirements of the NPSFM. The relevant minimum flow in these circumstances will be applied as the management flow in a condition of resource consent. A potential water user may benefit from having a default as there is a mechanism in place to determine the minimum flow that would apply to their proposed activity, without the user needing to invest in experts to determine that as part of their application seeking water.

The default minimum flow set for rivers in accordance with Policy 5.2.7 may not provide adequate protection to the natural and human use values supported by a river or may unnecessarily constrain the taking of water from the river. Therefore, Policy 5.2.8 provides an opportunity for any person to provide the Council with specific information that may justify a higher or lower minimum flow. In these circumstances it is appropriate that Policies 5.2.1 to 5.2.4 are used to make this judgement.

Costs

While there could be a saving for a water permit applicant as described above, potentially there could be a cost if the applicant did not agree with the default. In this circumstance, costs would be incurred in gathering the appropriate evidence to support their application, however, this was also the situation under the previous planning documents therefore it is not a change cost. In fact, assuming some

users find the default acceptable, the costs are likely to be incurred by less individual's than they are now.

There are potential costs for the Council in responding to applications made relative to Policy 5.2.8, as those applications would have to be assessed by relevant experts and potentially further deliberated on in a hearing if there was disagreement between the parties. It is likely that any costs of this nature could be absorbed by Council staff.

Efficiency

The benefits of having a default outweigh the costs to perhaps a few individuals, however irrespective of this, the NPSFM requires the Council to impose a default. The Council has chosen to use the defaults from the Proposed NES on Ecological Flows and Water Levels as this was prepared in the context of the Government's Sustainable Water Programme of Action and was the product of input from relevant hydrologists and other experts in the field. The defaults in the NES were only ever designed to be used where a Council was unable to set specific minimum flows due to insufficient information, therefore it is entirely appropriate (and efficient) that defaults are replaced for individual rivers as further information is gathered.

Effectiveness

Imposing a default is very effective in achieving Objective 5.2 as the objective applies to *all* waterbodies, and the default ensures that the life-supporting capacity of *all* waterbodies is safeguarded, not just the ones with specific limits as has been the case in the past.

Policy 5.2.9

Policy 5.2.9 – Have regard to the adverse effects of the proposed instantaneous rate of take from any river, except an ephemerally flowing river, if that rate of take exceeds or is likely to exceed 5% of river flow at any time.

Benefits

The minimum flows set for rivers manage the cumulative effects of taking water on natural and human use values. However, it remains possible for a take at a discrete location to have a significant adverse effect on flow immediately downstream of the point of abstraction. The risk is probably greatest in the upper part of a catchment due to lower flow that tends to occur in those reaches. This policy allows decision makers to have regard to the adverse effects of an individual take in certain circumstances irrespective of the minimum flows established in the MEP. The proposed rate of abstraction must be calculated to exceed 5% of the river flow at the point of abstraction. Abstractions in excess of this threshold are considered to have the potential to adversely affect natural and human use values. The policy only applies if the river is perennially or intermittently flowing.

Costs

This policy has been reflected in the Permitted Activity rules of the previous planning documents, and continues to be in the provisions of the MEP. The assessment of resource consent applications for abstractions during the life of the WARMP and MSRMP have also included consideration of the percentage of flow being taken relative to the location of the take point. Given this, there are unlikely to be new costs incurred as a result of this policy.

Efficiency

The policy benefits water users by identifying the threshold over which adverse effects of an instantaneous rate will be considered, and there are not anticipated to be any additional costs incurred from the inclusion of this policy on the MEP. Therefore, efficiently achieves Objective 5.2.

Effectiveness

Objective 5.2 is about retaining sufficient flows to safeguard the life-supporting capacity of a river, this policy identifies that in order to do that, closer attention needs to be paid to the adverse effects of abstractions with an instantaneous flow rate of more than 5% of the river flow. As this policy is about ensuring a take rate is sustainable, it is effective in achieving Objective 5.2.

Policy 5.2.10

Policy 5.2.10 – Have regard to the importance of flow connection to maintaining natural and human use values when considering resource consent applications to take water from intermittently flowing rivers, including:

- (a) the timing and duration of that flow connection;
- (b) the physical extent of any disconnection in flow; and
- (c) any adverse effects on connected aquifers.

Benefits

Some rivers do not have surface flow at all times, however there may still be circumstances where the flow connection is important in maintaining natural and human use values. For example, flow at a critical time of year may be important to facilitate the migration of indigenous fish, trout or salmon upstream or downstream. Policy 5.2.10 allows the importance of flow connection to be considered when determining a resource consent application to take water from an intermittently flowing water body. The matters set out in (a) to (c) are those that are relevant to this consideration. Matters (a) and (b) relate to changes in the temporal and spatial extent of any disconnection, while matter (c) recognises that the intermittent flow may recharge connected aquifers.

Costs

The policy is not considered to introduce significant costs for resource users. A resource consent to take water will have already been required to take water under regional rules. The matters contained in the policy are only to be considered when an intermittently flowing river is involved. Given that there could be adverse effects on natural and human use values even in intermittently flowing rivers the costs of this are justified.

Efficiency and Effectiveness

Policy 5.2.10 will be efficient in achieving Objective 5.2 with the highest benefit to the community. The requirement or costs to assess flow connection in maintaining natural and human use values in intermittently flowing rivers falls to the resource user while the community is assured that the impacts on natural and human use values are appropriately considered through the decision making process. In doing so the life-supporting capacity of intermittently flowing rivers will be retained.

The policy will also be successful in assisting to address Issue 5B. The issue recognises that there is considerable diversity in the values associated with Marlborough's rivers and that the effects of taking damming or diversion can affect these values. To some extent the policy also assists in addressing Issue 5A in which the diversity within Marlborough's water resources is acknowledged as making it difficult to apply uniformity in water management across Marlborough. Intermittently flowing rivers have specific characteristics that need consideration in determining whether or not it is appropriate to allow water to be taken.

Policies 5.2.11 and 5.2.12

Policy 5.2.11 – Set specific minimum levels for Freshwater Management Units dominated by aquifers to:

- (a) prevent physical damage to the structure of the aquifer;
- (b) prevent headwater recession of spring flows;
- (c) prevent a landward shift in the seawater/freshwater interface and the potential for saltwater contamination of the aquifer;
- (d) maintain natural and human use values of rivers and wetlands where groundwater is physically connected and contributes significantly to flow in the surface waterbody;
- (e) maintain groundwater quality; and
- (f) prevent long-term decline in aquifer levels that compromises the matters set out in (a) to (e).

Policy 5.2.12 – Set conductivity limits for Freshwater Management Units dominated by aquifers adjoining the coast to manage the potential for saltwater contamination of the aquifer.

Benefits

Policy B1 of the NPSFM requires the Council to set environmental levels for all FMUs, including minimum levels. This is a complex task for aquifers given the range of factors that influence rates of aquifer recharge and the difficulties determining the effect of abstraction on groundwater levels. This includes lags in response to either recharge and/or abstraction. This policy sets out the matters that have been considered in the process of setting the minimum levels in the MEP for FMUs dominated by aquifers. The minimum levels are intended to achieve the matters in (a) to (f) and therefore protect the sustainability of the FMUs in the long-term.

Policy 5.2.12 highlights one specific potential effect of taking water from FMUs adjoining the coast. That is the potential within an aquifer to reduce water pressures at the interface between freshwater and salt water. Reduced pressures will result in a landward shift of the interface, creating the potential for salt water intrusion into the aquifer. Any salt water intrusion will adversely affect the ability to use the groundwater and is likely to result in long-term effects. Therefore a specific measure, conductivity, will be used as an indicative measure of the salt levels in these FMUs. The setting of conductivity limits for FMUs adjoining the coast is intended to ensure the taking of water from aquifers does not shift the interface. A warning system is also in place to detect signs of salt water intrusion. Limits will be imposed by way of conditions on resource consents, and due to the nature of the potential effects of abstraction in the coastal area, restrictions will be based on reducing actual water taken rather than that allocated through the resource consent.

Costs

No new costs are introduced through these policies. There is already policy included with the WARMP regarding the setting of minimum levels for aquifers including for the same reasons as set out in Policy 5.2.11. Given there are fewer aquifers in the MSRMP area and for which there is not a reliance on irrigation in the same way as there is in the WARMP area, there is not the same level of detail for setting limits on aquifers. For the WARMP area there has also been a practice of imposing conductivity levels on resource consents for a number of years even though this is not formalised in the WARMP through policy. The Council also has in place a series of sentinel wells along the coastline that monitor conductivity to provide early warning of an inland migration of the salt water interface. The costs of this have been borne by ratepayers.

Efficiency and Effectiveness

There are requirements in the NPSFM for the Council to set environmental levels for all FMUs. Setting aquifer minimums is considered to be efficient and effective, and the Council considers it will be similarly efficient and effective in achieving Objective 5.2 with a high net benefit to all of the community. In terms of Policy 5.2.12 regarding conductivity limits, this will also have significant benefits for those who live in coastal areas or irrigate in coastal areas. This is efficient and effective as it provides a targeted response to a specific issue that can arise in coastal locations.

In relation to addressing Issue 5B the policies are in part addressing life-supporting capacity, especially in relation to Policy 5.2.11(b) and (d). However, other aspects of Policy 5.2.11 will be effective in addressing Issue 5C as well. Ensuring that the community can continue to access an adequate water supply, which includes good quality water, will mean that Marlborough's economic and social wellbeing will be maintained.

Allocation of Water

Policy 5.2.13

Policy 5.2.13 – Limit the total amount of water available to be taken from any freshwater management unit and avoid allocating water (through the resource consent process) beyond the limit set.

Benefits

Policy B1 of the NPSFM requires the Council to set environmental flows and/or levels for all FMUs. These levels include an allocation limit, a limit on the total amount of water that can be allocated from within any FMU. Policy B5 of the NPSFM specifies that the Council must not make decisions that will likely result in future over-allocation. This means that the Council cannot continue to allocate water once the cumulative level of allocation from a FMU reaches the allocation limit set in rules. For this reason, any further allocation of water from the FMU should be avoided (unless explicitly provided for in another allocation class). The establishment of a limit for every FMU will assist with protecting the natural and human use values of each FMU. It will also provide certainty for current and potential

water users, particularly as the avoidance aspect of the policy will be implemented through a prohibited activity rule.

Costs

Some new limits for water resources have been developed, although some of those are a formalisation of an existing informal regime. The new limits are unlikely to present new costs unless there are significant landowner aspirations yet to be realised, such as a change of land use to crop types with higher water requirements. Limits for many waterbodies are already in place, the waterbodies have been reframed as FMUs but there is little actual change in their geographic/hydrological area.

For the FMUs dominated by aquifers the limits are less than the current formal or informal regimes. In the case of the Wairau Aquifer FMU and the Riverlands FMU, the costs are likely to be perceived rather than actual as water use by permit holders is less than what has been authorised through resource consent (referred to as paper allocation). For the Brancott FMU, Benmorven FMU and Omaka Aquifer FMU the limits will be significantly less than the water requirements of planted crops, therefore there will be costs associated with seeking a connection to an alternative water supply.

Efficiency

In some FMUs the costs and/or benefits of setting limits are not significant and Policy 5.2.13 adds efficiency in the form of additional certainty. In other FMUs, the perceived or actual costs are of note, however the benefits to the environment and resource users within those FMUs outweigh the potential costs to individuals.

In the case of the Brancott FMU, Benmorven FMU and Omaka Aquifer FMU, the potential costs can be offset by water users taking advantage of an alternative water source (the Southern Valleys Irrigation Scheme (SVIS)). The use of SVIS by all water users currently accessing water from those sources, will improve the reliability of the FMUs so water is more likely to be available should it be required if the use of SVIS is restricted.

Effectiveness

In order to safeguard the life-supporting capacity of FMUs, and ensure natural and human use values are provided for, limit setting is essential. It is a very effective way in which to protect values while enabling resource use. Ongoing state of the environment monitoring will enable the effectiveness of the limits to be measured over time and provide valuable information for reviewing the limits in the future. These policies will be very effective in achieving Objective 5.2 and in addressing Issue 5B.

Policy 5.2.14

Policy 5.2.14 – Where there is insufficient environmental data to establish an allocation limit for a river, use a default allocation limit of 50% of the seven day mean annual low flow for rivers with a mean flow greater than 5m³/s and 30% of the seven day mean annual low flow for rivers with a mean flow less than 5m³/s.

Benefits

The Council monitors flow in rivers from which there is a demand for water, but does not necessarily monitor flow in rivers from which there is no or little demand. In some cases, this means that there is insufficient hydrological information and other relevant environmental data to establish a specific allocation limit for the river. In these circumstances, a default has been applied and the relevant allocation limit in these circumstances will be applied as a condition of resource consent. The benefit of this is that there is some consistency applied to determining an allocation limit in the face of insufficient information and that there is protection for the flow requirements of instream values.

The approach used in Policy 5.2.14 is based on the Proposed National Environmental Standard on Ecological Flows and Water Levels (2008), which has been put on hold in the face of current central government reforms for freshwater. Notwithstanding this the Council has opted to use the same defaults in Policy 5.2.14 as the proposed NES, which contained the science to justify the defaults as appropriate in circumstances where insufficient information or data was available to set a specific limit.

Costs

Given that there has been little demand for water in some FMUs the Council has not had a need to monitor flows in every river. The Council's resources have been more appropriately directed to monitoring FMUs where there has been significant demand for water.

There will be a cost created by the need to establish the seven day mean annual low flow at the site of abstraction. That cost should be borne by the applicant or applicants. However, where this is not provided (for example if there is an absence of flow record) the Council may need to establish the seven day mean annual low flow, which will involve a cost to the Council/ratepayer. The extent of costs in either circumstance would be determined by the existence of any flow record and the length of record in time. The costs are justified as all permanently flowing rivers require an environmental flow under the NPSFM.

Efficiency and Effectiveness

Policy B1 NPSFM requires the Council to set environmental flows for all FMUs. This is notwithstanding the fact that the Council does not have sufficient hydrological information and other relevant environmental data to establish a specific allocation limit in all circumstances. Therefore, to meet the requirements of the NPSFM, the default established through Policy 5.2.14 has been included in the MEP. Given that the Council does not have sufficient information about some FMUs to set an allocation limit given the lack of demand for water, it is difficult to determine the efficiency and effectiveness of the policy in achieving Objective 5.2. It will not be until subsequent monitoring of resource consents and state of the environment monitoring occurs that a determination can be made as to whether the policy is effective. For the same reason it is unclear as to whether the policy will be effective in addressing Issue 5B.

Policy 5.2.15

Policy 5.2.15 – Protect flow variability of rivers by using, where identified as necessary, a system of flow sharing that splits allocation of available water between instream and out-of-stream uses.

Benefits

The establishment of environmental flows for rivers affords protection to natural and human use values by establishing the minimum flow requirements for those uses and values. In some circumstances, flow variability above the minimum flow may also be important to sustain the natural and human use values supported by the river. Where this is the case, a system of flow sharing is used to proportionally allocate the water above the minimum flow to both abstractive users and natural and human use values. In other words, a proportion of the water available within the allocation class can be abstracted, while a proportion must be left in the river. The water left in the river will ensure that the taking of water does not reduce river flow to the minimum for an extended period of time.

Costs

Many rivers in Marlborough have an existing regime in place through the resource management plans that includes flow sharing, therefore no additional costs are expected. Rivers that have existing informal regimes that are being formalised through the MEP or new regimes that have been developed for the MEP use the same principles as established river regimes. It is anticipated that the costs of formalising regimes or developing new regimes will be minimal.

Efficiency

The approach taken by this policy is not new to the management of water resources in Marlborough, although it is new to some specific rivers. The benefits to the river environment greatly exceed the potential costs to individuals and therefore Policy 5.2.15 will be efficient in achieving Objective 5.2.

Effectiveness

Although natural and human use values have some resilience to natural changes in water flow and/or level, the taking, damming and diversion of water have the potential to significantly change the flow or level characteristics of waterbodies. Such changes can adversely affect the natural and human use values that rely on the water in the waterbody. Any loss of natural and human use values, either short-term or long-term, will have an impact on the community and the intrinsic values of the environment. Therefore implementing a flow sharing regime is a very effective method in safeguarding the life-supporting capacity of rivers. This has proven to be a successful approach during the life of the MSRMP and especially the WARMP under which there is a more detailed water

management framework. The policy will therefore be effective in achieving Objective 5.2 and in addressing Issue 5B.

Policy 5.2.16

Policy 5.2.16 – For consented takes from the Waihopai Freshwater Management Unit, Awatere Freshwater Management Unit and rivers within other Freshwater Management Units that utilise an upstream flow monitoring site, allocations for the taking of water will be reduced proportionally as flows fall in order to avoid any breach of a minimum flow.

Benefits

When monitoring of river flow occurs downstream of abstraction of water from the river, the effect of abstraction on river flow can be measured. In the Waihopai FMU and Awatere FMU, the monitoring of river flow occurs predominantly upstream of abstraction due to the absence of suitable flow monitoring sites further downstream. The management flow that applies in each FMU is the flow measured at the monitoring site, corresponding to an equivalent minimum flow that gives effect to Policy 5.2.4 downstream of abstraction.

Taking into account the allocation limits, abstraction downstream of the flow monitoring site can result in the non-attainment of the minimum flow that is sought to be achieved downstream. For this reason, the policy requires a proportional reduction in the allocations made by resource consent and consequent rationing of abstraction.

Costs

There are not considered to be costs arising from this policy as it is a continuation of the provisions of in the WARMP. The difference in the policy from previously, is that it is more specific about the rivers in which the reductions will apply. This potentially is a reduction in costs from the previous policy as it no longer applies to as many rivers within the district. Monitoring of flow in the Waihopai and Awatere Rivers over many years has allowed the establishment of a robust relationship between flows at the flow monitoring sites and gauged flows at other locations.

Efficiency

This policy is considered efficient in that it has benefits by way of greater specificity relative to the previous policy, and no additional costs for water users.

Effectiveness

This policy identifies specific circumstances where, because of the physical characteristics of the river, the management of flows has to be done in a certain way. This method of tailoring flow management to suit the situation, is effective in achieving Objective 5.2 as it recognises that to retain sufficient flows to safeguard the life-supporting capacity of a river as required by the objective, a one-size-fits-all approach is not appropriate.

Policy 5.2.17

Policy 5.2.17 – Implement water restrictions for water users serviced by municipal water supplies when the management flows/levels for the resource from which the water is taken are reached.

Benefits

At times of water restriction, it is important that all of the community respond to the vulnerability of water resources. The potential impacts on the natural and human use values of waterbodies can be heightened at times of low flow and/or water levels. While restrictions are imposed through conditions of consents on non-urban water users, it is also appropriate that urban water users accessing municipal water supplies take measures to reduce water usage during times of low flows and/or levels. This means that all users are being treated equitably at times of water shortages.

Costs

Implementation of this policy has the potential to limit urban water users access to water, which depending on the purpose they use water for, may have a financial cost. For domestic water users the cost is unlikely to be financial but it may be a loss of some enjoyment of their property, for example, if water restrictions limited their ability to maintain their lawns and gardens to their desired standard. The actual costs are unknown as the restrictions would be imposed by the Assets and

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Services Department of the Council, and the circumstances around restrictions vary considerably from water resource to water resource and from year to year.

Efficiency

The benefits community wide are based around equity, about sharing the pain. The costs are perhaps there for urban dwellers in the future, however restrictions are not often imposed on water permit holders and therefore are not likely to be an issue in urban settings with any regularity. As this policy is not implemented by a rule in the MEP, the Assets and Services Department retain the flexibility to implement this policy on a case-by-case basis with consideration of the costs and benefits of the relevant circumstances at the time.

Effectiveness

This policy is not particularly effective in achieving Objective 5.2, however the objective applies to the whole of the region so should be important to all of the community. Often times urban dwellers use rural environments as sources of food and sites of recreation, and sufficient river flows are important to those activities. Therefore, by association the impact of rural water users on river flows can affect the benefits urbanites gain from using these environments. So perhaps this policy is effective in recognising that sometimes when a whole community reaps the benefits, then a whole community should also share the challenges.

Diversification of water

Policies 5.2.18 and 5.2.19

Policy 5.2.18 – Require resource consent for the diversion of water to enable the potential adverse effects of the diversion to be considered.
Policy 5.2.19 – Have regard to the following matters in determining any resource consent application to divert water: <ul style="list-style-type: none">(a) the purpose of the diversion and any positive effects;(b) the volume or proportion of flow remaining in-channel and the duration of the diversion;(c) the effect of the diversion on environmental flows set for the waterbody;(d) the scale and method of diversion;(e) any adverse effects on natural and human use values identified in the Marlborough Environment Plan in the reach of the waterbody to be diverted;(f) any adverse effects on permitted or authorised uses of water; and(g) any adverse effects on the natural character of the waterbody, including but not restricted to flow patterns and channel shape, form and appearance.

Benefits

The diversion of water from its natural course has the potential to adversely affect the natural and human use values supported by the waterbody and existing water users downstream of the diversion. At its worst, there may not be sufficient water downstream to sustain the values and uses. The nature, severity and significance of the potential adverse effects will be circumstantial and will depend on the nature of the waterbody and the type of diversion, as well as the natural and human use values and other uses currently supported downstream of the proposed diversion. To ensure that the potential adverse effects can be accurately identified and assessed, diversions of water will generally require resource consent. The specific circumstances of the proposed diversion can then be considered in the determination of any application for water permit.

The matters listed in (e) to (g) of Policy 5.2.19 are the potential adverse effects created by the diversion of water. The nature, severity and significance of the potential adverse effects are influenced by the matters listed in (a) to (d). The consideration of the matters listed in Policy 5.2.19 will allow a determination to be made as to whether the proposed diversion of water is sustainable.

Costs

There are already resource consent requirements in the MSRMP and WARMP for proposals to divert water so any costs introduced through the policies are limited. Any costs that may arise are considered to be justified to ensure that the potential adverse effects of the diversion are considered.

Efficiency and Effectiveness

The policies are both efficient and effective in assisting to achieve Objective 5.2. The natural and human use values supported by Marlborough’s freshwater bodies are important to retain given their contribution to the social, economic and cultural wellbeing of the community. Therefore, ensuring that any diversion of water is appropriately addressed through the resource consent process will assist in the life-supporting capacity of Marlborough’s freshwater bodies being safeguarded. The policies will therefore significantly address Issue 5B in respect of diversion activities.

Damming of water**Policies 5.2.20 to 5.2.22**

Policy 5.2.20 – Where water is to be dammed to enable the storage of water, encourage the construction and use of “out-of-river” dams in preference to the construction and use of dams within the beds of perennially or intermittently flowing rivers.
<p>Policy 5.2.21 – Ensure any new proposal to dam water within the bed of a river provides for:</p> <ul style="list-style-type: none"> (a) effective passage of fish where the migration of indigenous fish species, trout and salmon already occurs past the proposed dam site; (b) sufficient flow and flow variability downstream of the dam structure to maintain: <ul style="list-style-type: none"> (i) existing indigenous fish habitats and the habitats of trout and salmon; and (ii) permitted or authorised uses of water; and (iii) flushing flows below the dam; (c) the natural character of any waterbody downstream of the dam structure; and <p>have regard to the matters in (a) to (c) when considering any resource consent application to continue damming water.</p>
<p>Policy 5.2.22 – In the determination of any resource consent application, have regard to the following effects of damming of water:</p> <ul style="list-style-type: none"> (a) the retention of sediment flows and any consequent adverse effect upstream or downstream of the dam structure; (b) changes in river bed levels and the effects of those changes; (c) any downstream effects of a breach in the dam wall; (d) interception of groundwater or groundwater recharge; and (e) interception of surface water runoff.

Benefits

The damming of water to store water is a key response to temporary and seasonal shortages of water for irrigation purposes. Stored water provides a reservoir that can be accessed when other supplies are constrained or restricted. Storage can involve the interception of runoff by damming ephemeral water bodies, the damming of intermittently or permanently flowing waterbodies or the placement of abstracted water in purpose-built reservoirs on land. Dams constructed on riverbeds create the potential for a range of adverse effects that may not be created when water is placed in reservoirs on land. For this reason, Policy 5.2.20 makes it clear to applicants and decision-makers that the construction of reservoirs on land is preferable to dams within the bed of rivers. However, it is a benefit to water users that this policy does not apply to the damming of ephemeral rivers as this provides clarity in an area that has been ambiguous under previous planning documents. District rules will create incentives to use “out-of-river” dams and dams on ephemeral rivers for any water storage proposal.

The policies do not prohibit the construction of dams within the bed of rivers, therefore Policies 5.2.21 and 5.2.22 provide guidance to applicants and decision makers as the matters that should be consider when applying for, or deliberating on, a resource consent application. The policies also clarify that these matters are appropriate for consideration when assessing resource consent applications to continue damming water.

Costs

For the most part, these policies guide activities that are yet to take place, therefore the costs are yet to be incurred. Developing storage capacity may or may not be of greater cost as a result of these

policies, it will depend on the specific circumstances and whether there was ever an intention to dam water in a manner that may be less acceptable under these policies. The clarity these policies provide may in-of-itself reduce costs for landowners or water users in the planning of their developments.

Efficiency

The costs relating to these policies are linked to the future aspirations of landowners and water users, and therefore are unknown and cannot be quantified. The benefits of the protections these policies provide for natural and human use values outweigh any potential costs for individuals.

Effectiveness

Policy 5.2.20 support the attainment of Objective 5.2 as on-river dams interrupt river flows and have the potential to be counter-productive to the aspiration of safeguarding the life-supporting capacity of water resources. Policies 5.2.21 and 5.2.22 recognise there are circumstances where people may wish to apply for on-river dams, or are already damming water, and that there is the possibility that after giving regard to all the relevant matters, consent can be granted without compromising the attainment of Objective 5.2.

Water shortage direction

Policy 5.2.23

Policy 5.2.23 – Where necessary, utilise water shortage directions to manage the adverse effects of serious temporary shortages of water on natural and human use values supported by the waterbody.

Benefits

Section 329 of the RMA allows the Council to issue a notice to apportion, restrict or suspend the taking, use, damming or diversion of water to address a serious temporary shortage of water. Policy 5.2.23 identifies that in addition to the management applied through other policies in Chapter 5, the Council will also consider the option of using a water shortage direction. The circumstances of the shortage will have to be sufficient to justify the additional apportionment, restriction or suspension over and above that already applied in the rules of the MEP. The main benefit of including the policy is that it signals to resource users that in situations where there is a serious shortage of water that restrictions will be imposed to ensure that natural and human use values are maintained.

Costs

Given the RMA allows for water shortage directions to be issued, there is no real need to include Policy 5.2.23 in the MEP. The costs are already evident under the management frameworks of the MSRMP and WARMP and so the policy introduces no new costs. During the life of these two resource management plans, very few water shortage directions have been issued.

Efficiency and Effectiveness

The policy in itself is neither particularly efficient nor effective in achieving Objective 5.2 as the RMA enables the Council to issue water shortage directions regardless of the policy. However, its inclusion does provide resource users with information as to circumstances when their take, use, damming or diversion of water consent may be suspended over and above other circumstances that may be prescribed through rules in the MEP or by way of conditions on the resource consent.

Other

Policies 5.2.24 and 5.2.25

Policy 5.2.24 – Impose conditions on water permits to take water requiring users to reduce and cease the authorised take when specified flows and/or levels are reached.

Policy 5.2.25 – Where necessary, review the conditions of existing water permits authorising the taking of water within 24 months of the Marlborough Environment Plan (or any subsequent plan changes) becoming operative to ensure that relevant environmental flows and levels are met.

Benefits

Conditions will be imposed on the grant of new resource consents (whether to continue taking water or to take water for the first time) requiring abstraction to cease when limits set in the MEP are reached. The environmental flows and limits are established by rules in the MEP in accordance with Policies

5.2.4, 5.2.7 and 5.2.11. This approach will help to ensure that the natural and human use values of waterbodies are appropriately protected or maintained.

For many water resources, environmental flows or levels will be established for the first time through the MEP. In other cases, environmental flows or levels established in the current resource management plans, or on an ad hoc basis through the resource consent process in the absence of resource management plan limits, have been modified through the review. Where the ongoing exercise of those water permits will result in the non-attainment of Objective 5.2 because of the absence of limits or due to adherence to previous limits, then it is appropriate to consider imposing the limits set by the MEP. This will be achieved by undertaking a review of resource consent conditions in accordance with Section 128(1)(b) of the RMA. Such reviews can only occur once the rules setting the environmental flows or levels become operative. Policy 5.2.25 signals that the reviews will occur within a set time period after the operative date.

Costs

The costs of the policies are not new as existing policies of the WARMP under Objective 6.2.1 already require compliance with meeting of minimum flows/levels and identify that reviews under Section 128 of the RMA may occur to bring resource consents into line relative the limits set in rules. Although the same approach was not included in the MSRMP this is reflective of the fact that most abstractions of water occur within the WARMP area. This is why there is a more detailed approach to water management in the WARMP area. In terms of Policies 5.2.24 and 5.2.25 proposed for the MEP, the Council considers the costs of these are justified to ensure that the life-supporting capacity of water resources is not adversely affected through the abstraction of water.

Efficiency and Effectiveness

These policies will be efficient and effective in achieving Objective 5.2. Having set specified flows and/or levels in the MEP it is important that when these limits are reached there is a requirement to cease taking water in order to protect the life-supporting capacity of water. In doing so there will be a high net benefit to the whole community as the natural and human use values of water resources that are valued by the community will be safeguarded. Requiring existing water permits to be reviewed through Section 128 to include adherence to limits specified in the MEP is the most effective means to ensure all water permit holders have to same requirement to stop taking water when limits are reached. It is acknowledged that there will be some delay in being able to review water permits as this is not able to occur until such time as the rules setting the environmental flows or levels have become operative.

Policy 5.2.24 will also be efficient and effective in addressing Issue 5B. This will be particularly so when all water permits have been reviewed to include specified flows and/or levels and a requirement to cease taking water when those limits have been reached. These policies will be effective in giving to Objective B1 of the NPSFM.

Evaluation for Issue 5C

Issue 5C – Marlborough’s social and economic wellbeing relies on an adequate supply of freshwater.

Appropriateness of Objective 5.3

Objective 5.3 – Enable access to reliable supplies of freshwater.

Relevance

For the reasons identified in Issue 5C, enabling access to freshwater in Marlborough’s rivers, lakes, wetlands and aquifers is one of the Council’s most important functions. A reliable and suitable water supply maintains community health standards and can result in significant improvements in primary production, commercial and industrial outputs. This objective is considered necessary in order to ensure Marlborough’s social and economic vitality.

The objective is focussed on achieving the purpose of the RMA. In addition to Section 5 there are a number of Section 7 matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. These include 7(b) *the efficient use and development of natural and physical resources*, 7(f) *maintenance and enhancement of the quality of*

the environment and 7(g) any finite characteristics of natural and physical resources. Objective 5.3 also assists the Council in carrying out its statutory functions under Section 30 of the RMA.

In terms of high level documents, the objective is consistent with the provisions of the NPSFM.

Feasibility

Marlborough is well practiced at enabling access to reliable supplies of freshwater and while there has been over-allocation which may compromise reliability in some areas, the provisions to achieve Objective 5.3 have been developed by capitalising on knowledge and experience gained over the past couple of decades in particular. It is realistic to achieve Objective 5.3 within the Council's powers, skills and resources and the degree of uncertainty and risk moving forward is acceptable.

Acceptability

It is the expectation of the community that the Council will manage water in the region in such a manner as to enable access to reliable supplies of freshwater, while protecting the natural and human use values of water resources. The implementation of Objective 5.3 is not anticipated to have tangible costs that are unjustifiably high for the community or any part of the community.

Assessment of provisions to achieve Objective 5.3

Policy 5.3.1

Policy 5.3.1 – To allocate water in the following order of priority:

- (a) natural and human use values; then
- (b) aquifer recharge; then
- (c) domestic and stock water supply; then
- (d) municipal water supply; and then
- (e) all other takes of water.

Benefits

Prioritising the allocation of water provides certainty and guidance to the community, applicants and decision makers. Setting aside specific allocations for certain uses, protects those uses for current and future generations. In particular, (a) to (d) ensure values and then the daily basic needs of our environment and communities are met. Following this with (e), which provides for all other takes at the same level of priority, ensures equity and equal opportunity between water users. The specification of allocation limits within the MEP gives certainty that water will be available for certain purposes as expiring consents are replaced.

Costs

There are two possible costs from this policy. One is the potential cost to industrial and/or commercial water users accessing non-municipal water supplies of having a lower reliability of supply than the same types of users accessing municipal water supplies. The other is the cost that different industries may perceive they will incur by not being given a higher priority over other water users. It is noted that there has been no explicit allocation for (d) or (e) during the life of the previous resource management plans, therefore there would not be new costs with regards to prioritisation between competing users of this nature.

Efficiency

The benefit to the environment and the wellbeing of the wider community from the prioritisation of water allocation significantly outweighs the potential individual costs to some water users. Protecting the values of water resources, and the reliance on those water resources for the most basic of human and animal needs, is vital to providing for the wellbeing of current and future generations of Marlburians.

Effectiveness

This policy goes to the core of what the objective is seeking – access to a reliable supply of freshwater. Setting aside specific allocations to provide for the needs of the environment and the community clearly is an effective response to the objective. It is also a very achievable method of supporting the objective, both logistically in terms of allocation through the rules in the MEP, and in

terms of there being minimal new adverse impact on current and potential water users through the use of this policy to give effect to the objective.

Policies 5.3.2 – 5.3.4

Policy 5.3.2 – Provide information to water users about the amount of water available for abstraction and the circumstances under which it is available.
Policy 5.3.3 – Confirm and, where they have not previously been set, establish allocation volumes that reflect the safe yield from any Freshwater Management Unit over and above the management flows/levels set through the implementation of Policies 5.2.4 and 5.2.10.
Policy 5.3.4 – Establish allocation volumes for municipal water supplies and avoid applying management flows and levels to the taking of water for the purpose of municipal supply.

Benefits

By establishing water quantity allocation limits in the MEP for all FMUs, water users have certainty as to the availability of water. This certainty enables landowners to consider options for new land uses, as well as understanding limitations on current land use activities reliant on water. The management flows and/or levels for each FMU are also in the MEP, this describes the circumstances under which water takes will be restricted. The NPSFM requires the Council to establish environmental flows and/or limits for all FMUs, environmental flows and/or levels include allocation limits, minimum flows, and other limits such as, management flows/levels and conductivity limits. The specification of limits for municipal water supplies is new, however the allocation volumes are the same as each supply currently holds by way of resource consent. The benefit of stipulating the municipal water supply allocations in the MEP is that there will not be competition for the allocation itself, as it sits separately from the allocation available for all water users.

Costs

Policy 5.3.2 does not carry any cost as its purpose is to provide information, as were similar provisions in the previous planning instruments. Policy 5.3.3 has the potential to lead to costs for water users where the review has altered the allocation volumes, or set volumes for water resources where previously there were none. In the latter circumstance this potentially is not a cost as previously applications to take water would have been assessed on a case-by-case basis and there may have been inconsistencies as a result of the lack of a definitive allocation limit. Decreased allocation limits as a result of the review are significant for the aquifer based FMUs, particularly the Benmorven FMU, Brancott FMU and Omaka Aquifer FMU. The costs for users accessing these FMUs maybe significant, however to what degree will depend on whether they are already utilising the Southern Valleys Irrigation Scheme, or another source of water from outside the FMU areas. It is not anticipated that Policy 5.3.4 will incur any cost and may decrease resource consent costs for the Council (and therefore ratepayers) as there is not competition for the water resource.

Efficiency

In terms of Policies 5.3.2 and 5.3.4, there are no costs of note so the benefits of their inclusion in the MEP prevail. Policy 5.3.3 does have the potential for significant costs to individuals however the widespread cost of not decreasing allocations has greater significance. Without adjusting allocations to align them to reflect safe yield, the impacts would be felt by all water users in the relevant FMUs including individual domestic water takes. Of aquifer levels drop too low there is also the potential for the physical aquifer structures to be undermined leading to slumping of land.

Effectiveness

These three policies support the attainment of Objective 5.3, particularly as it emphasises “reliable” supplies. Specifying allocation limits and management flows and/or levels based on the safe yields for water resources is intended to enable the reliability sought through this objective.

Policies 5.3.5 and 5.3.12

Policy 5.3.5 – Enable the take and use of water where it will have little or no adverse effect on water resources.
Policy 5.3.12 – Enable the construction of bores while recognising that this policy does not authorise the taking of water for any purpose other than bore testing.

Benefits

Policy 5.3.5 benefits the community as ensures that people do not have to unnecessary go through a resource consent process to access water. The policy recognises that in some circumstances there will be little or no adverse effect from some types of abstractions and therefore it is appropriate to provide for them through Permitted Activity rules in the MEP. This is a continuation of the approach in the previous planning documents, however through the expansion and clarification of activities more Permitted Activities have been enabled and ambiguity reduced.

Policy 5.3.12 is a significant shift from the previous plans as it moves the construction of bores from an activity requiring resource consent to a Permitted Activity that can be done without resource consent (subject to meeting standards). This benefits all water users as it removes a potential barrier or cost from the process of accessing water.

Costs

There are no costs to individuals as a result of these policies, in fact the opposite applies, these policies will reduce costs relative to the previous planning instruments. There is the potential for greater costs to the environment by allowing more Permitted Activity water takes, however the changes are considered sustainable. The only potential cost in relation to Policy 5.3.12 is the possibility of non-compliance with Permitted Activity standards and the Councils lack of knowledge that the activity is occurring. This is an issue common to all Permitted Activities and, in this instance, will be minimised by the requirement for a resource consent for the taking of water from a bore in cases of significant water abstraction, i.e. the Council will become aware of the bore at the time of the water permit application.

Efficiency and Effectiveness

There are no significant costs as a result of these policies but significant benefit to individuals in the community, therefore these policies are a very efficient and effective method in which to give effect to Objective 5.3.

Policy 5.3.6

Policy 5.3.6 – Allocate water within any class on a first-in, first-served basis through the resource consent process until the allocation limit is reached for the first time.

Benefits

Policy 5.3.6 establishes the basis on which freshwater will be allocated within any class. This continues the approach used under the water allocation and use regimes in the current resource management plans. Once an allocation limit is reached, then no further water can be allocated within the class. However, water within the class can become available to allocate again. Other provisions in the MEP address that situation (see Issue 5I). The main benefit from this approach is that it ensures all potential water users have the same ability to apply to take water from a water resource until the allocation limit is reached.

Costs

Policy 5.3.6 is a continuation of the approach in the current resource management plans and accordingly there are considered to be minimal costs arising.

Efficiency and Effectiveness

Given there are minimal costs associated with the policy it can be regarded as efficient and effective in enabling access to reliable supplies of freshwater.

Policy 5.3.7

Policy 5.3.7 – Allocate water to irrigation users on the basis of a nine in ten year water demand for the crop/pasture.

Benefits

The irrigation of crops and pasture is designed to offset shortages of soil-water experienced over the drier months of the year. The aim is to provide for the water demand of the plant by supplementing rainfall. Policy 5.3.7 establishes the basis for which irrigation water will be allocated. Allocating on a “nine years in ten” basis fully meets irrigation requirements on the property nine years out of ten and

meets a large part of requirements in the very driest years. It is beneficial to crop irrigators to have the basis on which allocations will be made set out in policy as this enables them to make risk assessments and decisions regarding their infrastructure and developments. Policy 5.3.7 signals an increase in the level of water demand to be met by the allocations as the vine irrigation application rates in the previous planning documents and practices were based on eight in ten year water demand.

This recognises that it is difficult to provide for absolute reliability given the potential for extreme fluctuations in climate, but nonetheless seeks to provide a high degree of reliability. The “nine in ten” reliability standard is a balance between the value of irrigation to individual growers and its value to Marlborough collectively.

Costs

There are some minor costs associated with the establishment of the crop irrigation requirement tool, Irricalc, that will be used to implement this policy. However, much of the cost for this has been covered by accessing central government funding opportunities. The change from an eight in ten year to a nine in ten year water demand for irrigation is an advantage for water users, therefore this policy does not represent a cost to them.

Efficiency

The benefits of this policy for water users significantly outweighs any minor costs to the Council for tools associated with the implementation of the policy.

Effectiveness

This policy is very supportive of the attainment of Objective 5.3 as it sets out the method in which water for irrigation use will be allocated, and the approach is more enabling than the previous planning documents.

Policies 5.3.8 and 5.3.14

<p>Policy 5.3.8 – Approve water permit applications to continue taking and using surface water when:</p> <ul style="list-style-type: none"> (a) a specific minimum flow and allocation limit for the source Freshwater Management Unit is established in the Marlborough Environment Plan; (b) the Freshwater Management Unit is not over-allocated in terms of the limits set in the Marlborough Environment Plan; (c) there is to be no change to the intended use of water, or if there is a change in use, this results in a decrease in the rate of take of water; and (d) the application is made at least three months prior to the expiry of the existing water permit.
<p>Policy 5.3.14 – The duration of water permits to take water will reflect the circumstances of the take and the actual and potential adverse effects, but should generally:</p> <ul style="list-style-type: none"> (a) not be less than 30 years when the take is from a water resource: <ul style="list-style-type: none"> (i) that has a water allocation limit specified in Schedule 1 of Appendix 6; and (ii) that has a minimum flow or level specified in Schedule 3 of Appendix 6; and (iii) that is not over-allocated; or (b) not be more than ten years when the take is from an over-allocated water resource as specified in Policy 5.5.1; or (c) not be more than ten years when the take is from a water resource that has a default environmental flow established in accordance with Policies 5.2.7 and 5.2.14.

Benefits

Policy 5.3.8 sets up the circumstances under which a water permit holder will be granted a replacement consent upon the expiry of their existing consent. Some of the policy mimics practice and some mimics the provisions within Section 124 of the RMA, either way it formalises the approach in a Marlborough context and provides clarification and guidance that benefits resource users and decision makers.

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Policy 5.3.14 is not dissimilar to the provisions of the previous planning documents and/or practice but does provide water permit applicants and decision makers with greater guidance as to what the appropriate term for a resource consent may be, given the nature of different resources. It also benefits the community as a whole as it identifies the resources where longer terms are not appropriate and reassures people that the Council is mindful of the vulnerabilities of these water sources.

Costs

There are not anticipated to be any significant costs associated with these policies as Policy 5.3.8 gives greater certainty, and Policy 5.3.14 in large part reflects the practice of the past few years. Both policies have the potential to decrease costs for resource users.

Efficiency and Effectiveness

As the benefits of these policies outweigh the potential costs, they are considered to be an efficient response to Issue 5C and Objective 5.3. In essence the policies enable greater certainty for users, where the effects of their activities are known and of an acceptable level. The policies effectively support the attainment of the Objective 5.3 by recognising the value of the increased knowledge of water resources and the picture that has been built up about the utilisation of those resources over the past 20 years or more.

Policies 5.3.9 and 5.3.10

Policy 5.3.9 – Express any allocation of water for irrigation purposes on the following basis:				
	Take of surface water	Take of groundwater	Use of water, except for the Brancott Freshwater Management Unit, Benmorven Freshwater Management Unit or Omaka Aquifer Freshwater Management Unit.	Use of water – Brancott Freshwater Management Unit, Benmorven Freshwater Management Unit or Omaka Aquifer Freshwater Management Unit.
Quantity	m ³	m ³	m ³	m ³
Period	24 hours	Annual	Monthly; and Annual	Annual
Method of determination	The maximum daily rate of take shall not exceed the daily volume that fully meets irrigation demand on 90% of the days in the irrigation season, as calculated by using IrriCalc with climate data for the period 1 July 1972 to 30 June 2014.	The maximum rate of take (m ³ /year) in a July-June year shall not exceed the volume that fully meets irrigation demand in 90% of July-June years in the period 1 July 1972 to 30 June 2014, as calculated by using IrriCalc.	The maximum volume of irrigation water use in a calendar month shall be the monthly volume that fully meets irrigation demand in 90% of those months in the period 1 July 1972 to 30 June 2014, as calculated by using IrriCalc; and	The maximum volume of irrigation water use in a July-June year shall be the volume that fully meets irrigation demand in 90% of July-June years in the period 1 July 1972 to 30 June 2014, as calculated by using IrriCalc.

			<p>The maximum volume of irrigation water use in a July-June year shall be the volume that fully meets irrigation demand in 90% of July-June years in the period 1 July 1972 to 30 June 2014, as calculated by using IrriCalc.</p>	
<p>Policy 5.3.10 – The instantaneous rate of take from a surface waterbody may exceed the instantaneous equivalent of the maximum daily allocation:</p> <p>a) by 20% at any point in time; or</p> <p>b) for 20% of the time;</p> <p>but in both cases the cumulative take over 24 hours (midnight to midnight) must not exceed the daily maximum.</p>				

Benefits

Policy 5.3.9 benefits resource consent applicants by providing information about how any water allocations they obtained would be expressed. This enables them to plan their irrigation activity, infrastructure and make decisions about their practices. Policy 5.3.10 recognises that it does not adversely affect the environment to an unacceptable degree to provide river water users with some flexibility around their instantaneous rate of abstraction. This flexibility is beneficial as it enables opportunities for efficiencies to be capitalised on by river water users.

Costs

This approach to water allocation is more complex than under the previous planning documents and therefore there may be some time and education costs for the Council and water users. The method of allocation for water use has the greatest divergence from the previous approach and has the potential to increase compliance costs as water use has to be clearly measured and data relayed to the Council. As the requirements for water use data comes from central government this is a cost that will have been considered when developing the NPSFM.

Efficiency

These policies are an efficient approach that will be more beneficial than costly. After a period of adjustment, it is likely that irrigation practices on the ground will not differ greatly than they were in the past and that the greatest change will be in the paper expression of allocations. Policy 5.3.10 is an enablement that is not anticipated to have any costs to the community or the environment.

Effectiveness

These policies are effective in supporting the attainment of Objective 5.3 as they set out the method in which access to water is going to be enabled by way of the expression of allocation, and flexibility for water users is enabled.

Policies 5.3.11 and 5.3.13

<p>Policy 5.3.11 – Have regard to the potential for any take of water to adversely affect the ability of an existing water user to continue taking water and mitigate any adverse effects by limiting, where necessary, the instantaneous rate of take.</p>
<p>Policy 5.3.13 – While seeking to manage interference effects between groundwater users, recognise that it is unreasonable to protect an existing take of groundwater when the bore does not fully penetrate the aquifer.</p>

Benefits

These policies are beneficial to both Permitted Activity and consented water users as they make it clear that interference effects are a significant issue to be managed. Implementation of these policies will minimise conflict between water users, which is of benefit to the whole community as conflict can use up ratepayer resources and impact on peoples enjoyment of their environment. Policy 5.3.13 makes it clear that if a water user chooses to construct a shallow bore that does not fully penetrate an aquifer, then protection of their water supply is not the responsibility of other groundwater users.

Costs

These policies or the concepts behind them are not new and water resource users have been living with them for the life of the previous planning documents.

Efficiency

These policies are efficient as they do not add any cost to individuals or the community but continue to provide appropriate protections and guidance.

Effectiveness

These policies support the attainment of Objective 5.3 in that it seeks to enable access to reliable supplies of water for all, this cannot be achieved if access for one user is compromised by another user.

Policies 5.3.15 and 5.3.16

Policy 5.3.15 – Require land use consent for the planting of new commercial forestry and carbon sequestration forestry (non-permanent) in flow sensitive areas.

Policy 5.3.16 – When considering any application for land use consent required as a result of Policy 5.3.15, have regard to the effect of the proposed forestry on river flow (including combined effects with other commercial forestry or carbon sequestration forestry (non-permanent) established after 9 June 2016) and seek to avoid any cumulative reduction in the seven day mean annual low flow of more than 5%.
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Benefits

Existing water permits have a level of reliability for their water supply that could be reduced by new activities that may adversely affect water availability within the catchment from which they access water. One land use activity that has been identified is new commercial forestry or new carbon sequestration forestry (non-permanent). By identifying the catchments that are particularly sensitive to the impacts of forestry, existing water users reliability is protected. As this policy is specific to new forestry planting there is certainty of approach for new activities, while not impacting existing planting (and replanting), and it provides protection for existing irrigation water users. These policies may also protect existing permitted activity water users within the specified catchments.

Costs

While there are some definable costs around applying for a resource consent for land owners wishing to establish new commercial forestry or new carbon sequestration forestry (non-permanent), the most significant cost is the potential opportunity cost to landowners if their future aspirations for the land was to establish commercial forestry or new carbon sequestration forestry (non-permanent). Quantifying those potential costs is not possible as the future intentions of landowners (or subsequent landowners) cannot be foreseen. Policy 5.3.16 does not limit an applicant from providing mitigation options to offset the impact of new forestry on water yield.

Efficiency

The costs associated with these policies are unknown as they are linked to the future aspirations of current and/or subsequent landowners in the specific areas identified. However, the existing water users have a level of water supply reliability that they currently access, and any reduction in that supply will impact on their operation. These policies are efficient in that they appropriately support existing water users over potential future water users (interception and uptake of catchment water inputs by trees).

Effectiveness

These policies are effective in supporting the objective of enabling access to reliable supplies of freshwater. In this instance, emphasis is placed on continued reliable access for existing water users.

However, subject to not having an unacceptable impact on the seven day mean annual low river flow, new water users in the form of commercial foresters, could also access reliable freshwater.

Evaluation for Issue 5D

Issue 5D – Many water resources are fully allocated or are approaching full allocation, inhibiting the opportunity to provide for further demand for water resources.

Appropriateness of Objective 5.4

Objective 5.4 – Improve the utilisation of scarce water resources.

Relevance

Allocations are approaching or have reached allocation limits for a number of water resources. The NPSFM requires the Council to avoid any future over-allocation; i.e. the Council cannot continue to allocate beyond the limits established by the MEP. Without further intervention, reaching a state of full allocation will seriously affect opportunities for future economic growth. Marlborough’s primary and secondary industries rely on freshwater and any constraint on future supply will curtail economic growth in these industries. Given this situation it is essential that an alternative method to gain access to water is found to meet future demand. Objective 5.4 is therefore relevant in addressing Issue 5D.

The objective is focussed on achieving the purpose of the RMA. In addition to Section 5 there are a number of Section 7 matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. These include 7(b) *the efficient use and development of natural and physical resources*, 7(c) *the maintenance and enhancement of amenity values*, 7(d) *intrinsic values of ecosystems*, 7(f) *maintenance and enhancement of the quality of the environment* and 7(g) *any finite characteristics of natural and physical resources*. Objective 5.4 is also important in giving effect to the NPSFM.

Feasibility

With regards to the lapse periods for consents, the policies proposed to support the attainment of Objective 5.4 are existing in the current planning documents therefore from the perspective of ensuring scarce water resources are not unduly locked up for extended periods, this objective is realistically able to be achieved.

The second aspect of this objective, improving utilisation of water, is achievable within the Council’s powers, skills and resources but tools to assist with support this objective require more time to be developed. For this reason, while it is feasible that this objective addresses Issue 5D, the full realisation of the objective will take some time.

Acceptability

The community is aware that the requirements of the NPSFM mean the Council has to address over-allocation and ensure it does not cause over-allocation. Relative to Objective 5.4, this essentially means we have to better utilise the water we have already allocated because in most cases there is not any more available for new uses. A lot of the community are indifferent about this issue as they have what they need, and new users are an unknown quantity, but from a regional perspective it is understood that further growth and development is likely to be only possible if water is available to new users. Objective 5.4 will not result in unjustifiably high costs on the community or parts of the community, in fact for the most part it represents new opportunity both for existing and new water users.

Assessment of provisions to achieve Objective 5.4

Policies 5.4.1, 5.4.2 and 5.4.8

Policy 5.4.1 – The lapse period for water permits to take water shall be no more than two years.
Policy 5.4.2 – Giving effect to water permits to take and use water will be determined on the basis of the water being taken (and/or stored) for the authorised use and that the take is recorded in accordance with Policy 5.7.4.
Policy 5.4.3 – The lapse period for water permits to use water shall be at least ten years.

Benefits

A lapse period of no more than two years for water take permits ensures that allocations of water are not held unused for a long period. This is particularly important where available water is scarce due to full or over-allocation. A two year limit will enable water to be reallocated to new users rather than keeping it effectively locked up for the five year lapse period default under the RMA. Water permits to use water can be treated differently as they do not lock up the resource at the expense of another potential user. In addition, under the future enhanced transfer system (see Policy 5.4.5) it will be possible for a user to hold a water permit to use water but to choose not to receive an allocation transfer for several years, therefore not giving effect to their use permit for some time. An extended lapse period of 10 years for water use permits recognises the lack of effects on others and the potentially onerous requirement to seek regular replacement permits if they had a short lapse period.

Policy 5.4.2 is of significant benefit to consent holders and the consenting authority as it provides clear guidance as to when a water permit to take or use water has been given effect to. This has been an ongoing issue during the term of the previous Plans and the clarity will provide certainty for MEP users. In addition, it gives the clear message that the expectation is that water is taken and used for the intended purpose, and with the appropriate infrastructure in place for measuring the activities.

Costs

There will be no additional costs as a result of the two year lapse period on water take permits as this reflects current practice and policy guidance under the previous Plans. The ten year lapse period on a water use permit is longer than current practice, therefore will not invoke any cost to water users. The clarity and certainty provided around giving effect to a permit should not add additional cost to new water permit holders, however the timeframe in which costs may be incurred could be shorter, as the likes of crops and infrastructure may have to be established to ensure a water take permit does not lapse.

Efficiency

As this is largely an extension of an existing approach, or an easing of one, then the costs will not be significant. Also, for the most part water permits sought will be replacing expiring permits so more than likely the consents will be quickly given effect to as the crops and infrastructure will already be in place. The benefits of clarifying the circumstances in which a permit is considered to have been given effect to, enabling timely re-allocation of water where it is not taken and used, and extending the lapse periods for use permits to provide for enhanced transfer outweigh any costs that may be incurred.

Effectiveness

This group of policies clearly supports the improved use of scarce water resources by ensuring water is not unreasonably locked up for extended periods when other users may be able to make use of the water. It is important when scarce water resources are involved that permit holders are actually taking and using water for the purpose it was intended, the clarification around this will improve water use.

Policies 5.4.4 and 5.4.5

Policy 5.4.4 – Enable access to water that has been allocated but is not currently being utilised by individual water permit holders through the transfer of water permits.

Policy 5.4.5 – When an enhanced transfer system is included in the Marlborough Environment Plan to enable the full or partial transfer of individual water allocations between the holders of water permits to take and use water, this will be provided for as a permitted activity where:

- (a) the respective takes are from the same Freshwater Management Unit;
- (b) the Freshwater Management Unit has a water allocation limit specified in Schedule 1 of Appendix 6;
- (c) the take is not from the Brancott Freshwater Management Unit, Benmorven Freshwater Management Unit or the Riverlands Freshwater Management Unit;
- (d) metered take and use data is transferred to the Council by both the transferor and the transferee in real time using telemetry;
- (e) the allocation is authorised via a water permit(s) applied for and granted 9 June 2016;
- (f) the transferee holds a water permit to take water if their abstraction point differs from that of the transferor; and
- (g) the transferee holds a water permit to use water.

The duration of the transfer is at the discretion of the transferor and transferee and can be on a temporary basis or for the remaining duration of the water permit.

Benefits

Policy 5.4.4 seeks to enable the movement of water between users within a freshwater management unit so that more efficient use of the available water can occur. Through the monitoring of water use authorised by resource consent, it is evident that the actual demand for water is usually less (sometimes considerably so) than the volume of water allocated through a water permit. This is water that could be used by other existing users or by potential users that are unable to access water due to a state of full allocation.

Policy 5.4.5 has been included in advance of rules for an enhanced transfer system for water being included in the MEP. Rules for an enhanced transfer system were not included in the MEP on notification because the digital platform required to support the system is not yet available and under the RMA the Council is not legally able to delay the effect of a rule of the nature required to enable the enhanced transfer. However, the Council intends to introduce such a system to the MEP through the plan change provisions under First Schedule of the RMA. The matters (a) to (f) effectively establish ground rules under which enhanced transfer can occur. In doing so, this policy gives effect to Policy B3 of the NPSFM.

Costs

The costs for site to site transfers are the resource consent processing costs, as they are at present so there is no additional cost incurred as a result of Policy 5.4.4. When the enhanced transfer system is in place and available for users, it is intended that there will be no fee associated with making a transfer using the system. The costs associated with establishing the system are met by the Council, and therefore are a cost to all ratepayers, however central government funding has been obtained to offset some of this cost. There will still be some resource consent processing costs but they will be less than a transfer unrelated to the enhanced transfer process.

Efficiency

There are no increased costs for individuals as a result of these policies, and for users taking up the opportunity to use the enhanced transfer system in the future, there are likely to be reduced costs.

Effectiveness

These policies are a direct, practical method of attaining Objective 5.4. By enabling a more fluid, real time method for transferring allocations of water between parties the water that is available will be more fully utilised. This in turn supports Issue 5D as it provides the opportunity to meet additional future demand for water by new users or existing users seeking to expand their developments.

Policy 5.4.6

Policy 5.4.6 - Provide water users and the community with daily water use information for fully allocated water resources.

Benefits

This policy commits the Council to providing daily water use information for uses authorised by way of resource consent occurring in fully allocated water resources. This will benefit water users as they will be able to easily track their water use relative to their consented allocation. Additional benefit will be had in the future as the provision of this information will enable opportunities for the transfer of water between users to be identified by those users who wish to participate in the enhanced transfer system identified in Policy 5.4.5.

Costs

The costs associated with providing this information will be met by the Council, and therefore will be a cost to all ratepayers, however central government funding has been obtained to offset some of this cost.

Efficiency

The benefits of providing this information to water users outweigh the small costs across the region for the establishment and management of the resource. In addition, the data obtained will assist the

Council to meet its obligations to central government around the provision of water take and use records, the costs of which would have had to have been borne by ratepayers anyway.

Effectiveness

This policy supports the attainment of Objective 5.4 in that, water users cannot improve their utilisation of water if daily water use information is not known to them. The wider community can also assist in water management if they can access information that, when combined with their local knowledge, may raise issues that they can draw to the attention of the Council.

Evaluation for Issue 5E

Issue 5E – The over-allocation of water resources creates a risk that the cumulative abstraction of water from the resource will exceed the safe yield, creating significant adverse effects on natural and human use values and threatening the reliability of existing water uses.

Appropriateness of Objective 5.5

Objective 5.5 – Phase out any over-allocation of water resources.

Relevance

Where the cumulative abstraction of water by all water users exceeds the allocation limits set out in the MEP, the abstraction creates the potential for significant adverse effects. This is because the limits represent the extent of safe yield from the river or aquifer. Water abstracted in excess of the safe yield is likely to not only adversely affect flows in rivers and levels in aquifers, but also the various uses and values that depend upon those river flows and aquifer levels, including abstractive uses. This abstraction is unsustainable as it threatens the life-supporting capacity of the water resource and, where the adverse effect is long-term, the ability of the water resource to sustain future generations. Objective 5.5 is therefore directed at addressing Issue 5E and has been included to ensure that the over-allocation of water resources is phased out.

The objective is focussed on achieving the purpose of the RMA. In addition to Section 5 there are a number of Section 7 matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. These include 7(b) *the efficient use and development of natural and physical resources*, 7(c) *the maintenance and enhancement of amenity values*, 7(d) *intrinsic values of ecosystems*, 7(f) *maintenance and enhancement of the quality of the environment* and 7(g) *any finite characteristics of natural and physical resources*. Objective 5.5 also assists the Council in carrying out its statutory functions under Section 30 of the RMA.

The objective is particularly important in terms of the NPSFM. Over-allocation is a matter that the NPSFM requires regional councils to address through Objective B2 and Policy B6. The NPSFM defines over-allocation of water resources as where a water resource has been allocated beyond a limit or is being used to a point where a freshwater objective is no longer being met. Objective 5.5 and its subsequent policies have been included to directly address the requirements of the NPSFM.

Feasibility

Objective 5.5 is feasible as the Council has already achieved some reduction in the over-allocation of water in the Benmorven, Brancott and Omaka Aquifers through the processing of some water permits to continue taking water from these resources. Some resource consent applicants have also applied to take less water than the guideline rate under the provisions of the current resource management plans.

The objective is within the powers, skills and resources of the Council to achieve given its experience in managing water resources in Marlborough for many years. Given this there is also an acceptable level of uncertainty and risk associated with achieving Objective 5.5.

Acceptability

There was general agreement through the early consultation that over-allocation should be corrected. Concern was expressed on the status of various water resources, particularly the Lower Wairau River. Some respondents questioned whether there were links between observed low river/aquifer levels and the levels of allocation. Several people said that the regional policy statement should clearly describe

how the process of clawback is to be implemented in order to provide greater certainty to resource users. However, others were opposed to the “claw-back” of allocation. An alternative option was suggested of promoting the transferability of water permits, which was believed to ensure that the resource is applied to activities that most need water at any given time.

Through the later consultation that occurred throughout 2015 there was recognition by the community of the requirements through the NPSFM to address over-allocation. The feedback was generally in support of proposals to address over-allocation but there was some concern at the potential monetary aspect of an enhanced transfer system.

Given the following policies identify specific freshwater management units and regimes to address over-allocation, any costs of the regimes will only be experienced by water users in the identified freshwater management units. Targeting management regimes to deal with specific issues in specific freshwater management units is a more efficient and effective approach to sustainably managing Marlborough’s water resources.

Assessment of provisions to achieve Objective 5.5

Policies 5.5.1 to 5.5.3

<p>Policy 5.5.1 – Recognise that the following Freshwater Management Units are over-allocated with respect to limits established in the Marlborough Environment Plan:</p> <ul style="list-style-type: none"> (a) Wairau Aquifer; (b) Benmorven, Brancott and Omaka Aquifer; and (c) Riverlands.
<p>Policy 5.5.2 – No new water permit will be granted authorising additional abstraction from the water resources identified in Policy 5.5.1 after 9 June 2016.</p>
<p>Policy 5.5.3 – Avoid any additional diversion of water from over-allocated water resources for use on land in other freshwater management units.</p>

Benefits

Policy 5.5.1 sets out water resources that are over-allocated with respect to the limits set out in the MEP. The policy provides certainty with respect to the scope of the application of subsequent policies to address over-allocation.

Water resources identified as over-allocated should not be placed under further stress by additional demand. Any additional demand will not only make existing or potential adverse effects of over-allocation worse, it will make achieving the community’s objective of addressing over-allocation more challenging. Further, the NPSFM requires the Council to both resolve over-allocation and not cause further over-allocation. For these reasons, Policy 5.5.2 makes it clear that no further water permits to take water from the water resources identified in Policy 5.5.1 will be granted.

Over time, many water users have been innovative in addressing the shortage of water in an area by diverting available water from other water resources. However, diverting water from an over-allocated water resource to another freshwater management unit will not result in sustainable outcomes and is to be avoided as set out in Policy 5.5.3.

Costs

The only costs directly associated with these policies are the unknown costs of a future activity by someone wishing to develop a new activity requiring water, or expand their existing activity. As the future aspirations of a landowner (or subsequent landowner) are not known, the potential opportunity cost cannot be quantified. There are very few areas of where crops may be planted that do not already have access to water, therefore it is more likely that these policies would impact someone with a new non-irrigation water requirement or a landowner wishing to change to a crop type with a higher water requirement than the existing planted crop.

Efficiency

The benefits of identifying the over-allocated water resources and placing management around them clearly outweigh the potential costs associated with an unknown future need for additional water.

Over-allocated water resources represent a risk for existing water users and the environment, and not addressing that risk and potentially allowing it to grow would be irresponsible and to the detriment of the wider community.

Effectiveness

Objective 5.5 requires the phasing out of any over-allocated of water resources. In order to phase over-allocation out, it is necessary to identify the water resources in that situation therefore Policy 5.5.1 clearly supports the attainment of this objective. Logically if the objective is to phase out over-allocation, then it is vital to avoid circumstances that will exacerbate the situation therefore Policies 5.5.2 and 5.5.3 also support the directive set out in Objective 5.5.

Policies 5.5.4 and 5.5.5

Policy 5.5.4 – Progressively resolve over-allocation of the Wairau Aquifer Freshwater Management Unit and Riverlands Freshwater Management Unit by ensuring water permits granted after 9 June 2016 to continue taking water from the Freshwater Management Units reflect the reasonable demand given the intended use.

Policy 5.5.5 – Resolve over-allocation of the Benmorven, Brancott and Omaka Aquifer Freshwater Management Units by reducing individual consented allocations on a proportional basis, based on the total allocation available and individually consented irrigated land areas, or equivalent for non-irrigation water uses (excluding domestic and stock water). The reductions will be achieved by reviewing the conditions of the relevant water permits to reallocate the available allocation fairly across all relevant users.

Benefits

Policies 5.5.4 and 5.5.5 set out the means by which the over-allocation of groundwater from the FMUs identified in Policy 5.5.1 will be resolved. It is of benefit to all consented water users in these FMUs to have the clarity provided by these policies. The different approaches taken by the two policies demonstrates that water management should fit the circumstances and not be broad brush, this is beneficial in that it does not unnecessarily limit resource users or limit them sooner than is necessary. The outcomes of the implementation of these policies will be the resolution of over-allocation in the relevant FMUs, this is of benefit to all water users and the region as a whole.

Costs

There will potentially be some costs to resource users if their allocation to take water within their resource consent is reduced as a consequence of being located within an FMU identified in Policy 5.5.1. However, a degree of reduction of allocation has already occurred prior to the MEP being notified through the processing of some water permits to continue taking water from these resources. Some resource consent applicants have also applied to take less water than the guideline rate under the provisions of the WARMP and MSRMP. So to the extent that the policies result in costs for resource users, these are already being experienced under the provisions of the WARMP and MSRMP.

Efficiency and Effectiveness

The two policies will be both efficient and effective in achieving Objective 5.5 to ensure that the over-allocation of water resources is phased out. Policies 5.5.4 and 5.5.5 describe the method in which over-allocation will be addressed, which provides certainty to resource users. The potential costs for individuals are considered to be outweighed by the benefits to all water users in the FMU areas, and the community as a whole. The activities occurring on the land supported by the water resources in these FMUs make a significant contribution to the regional economy and it is important that as higher level of reliability is retained as possible, and the allocations within the FMUs are bought back to a sustainable level as quickly as is appropriate.

Evaluation for Issue 5F

Issue 5F – The taking of groundwater in proximity to rivers can individually or collectively reduce flows in the rivers.

Appropriateness of Objective 5.6

Objective 5.6 – Ensure that the taking of groundwater does not cause significant adverse effects on river flow.

Relevance

For most of Marlborough's water resources, there is exchange of water between rivers and underlying groundwater. Because of this interaction, the taking of groundwater can reduce the flow in the river, termed a "stream depletion" effect. The degree of stream depletion will vary depending on the rate of groundwater pumping, the distance between the point of abstraction and the river and the ability of water to move through the sediments within the riverbed and through the adjoining soils.

Natural and human use values supported by rivers are flow dependent. Any reductions in river flow caused by groundwater abstraction at times of low flow have the ability to adversely affect the natural and human use values supported by the river. As for direct takes of surface water, the objective with respect to groundwater takes that have stream depletion effects is to maintain the natural and human use values supported by flow in the river. Objective 5.6 is therefore relevant in addressing Issue 5F.

The natural and human use values supported by Marlborough's freshwater bodies are important to retain given their contribution to the social, economic and cultural wellbeing of the community. In addition, the values can also have significance as a matter of national importance under Section 6 of the RMA, which must be recognised and provided for.

In meeting the sustainable management purpose of the RMA there are a number of Section 7 matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. These include 7(b) *the efficient use and development of natural and physical resources*, 7(c) *the maintenance and enhancement of amenity values*, 7(d) *intrinsic values of ecosystems*, 7(f) *maintenance and enhancement of the quality of the environment* and 7(g) *any finite characteristics of natural and physical resources* are matters that. Objective 5.6 also assists the Council in carrying out its statutory functions under Section 30 of the RMA.

Objective B1 of the NPSFM also requires the life-supporting capacity, ecosystem processes and indigenous species to be safeguarded. Objective 5.6 reflects in part the need to safeguard the life-supporting capacity of Marlborough's surface freshwater bodies when managing the taking of groundwater in proximity to rivers.

Feasibility

Objective 5.6 is feasible as the Council has already established practices in many water resources to ensure stream depletion effects of groundwater abstractions are considered. In most cases the practices or approaches have not been formalised in the planning documents, however the work has already been done that enables them to be included in the MEP using the existing skills and resources within the Council. The implementation of the policies that give effect to Objective 5.6 is realistically able to be achieved within the Council's powers, and with an acceptable level of uncertainty and risk.

Acceptability

Consideration of stream depletion effects during the assessment of resource consent applications has historically been challenging. A lot of time and money has been spent by the Council and applicants on assessing the effects of abstraction, often times being stumped at the first hurdle – should the abstraction be managed as groundwater or surface water. While it is anticipated that further debate will be had on specific catchments, Objective 5.6 can be achieved and Issue 5F addressed. In many instances there are permitted activity water users who rely on the river flows who seek management appropriate to protect their access. In other cases, river flows hold high amenity values that are important for landowners and the wider community.

During water management consultation over the past 4 years or more, all of these perspectives and desires around water reliability have been raised and it is considered the intentions of this objective will not result in unjustifiably high costs on the community or parts of the community.

Assessment of provisions to achieve Objective 5.6

Policy 5.6.1

Policy 5.6.1 – Unless there is an identified aquifer dominant Freshwater Management Unit, all water within a catchment will be managed as a surface water resource. This means that the minimum flow, management flow and allocation limit established for the river dominant Freshwater Management Unit will also apply to groundwater takes.

Benefits

In many cases groundwater associated with rivers does not involve the storage of a significant volume of water and the groundwater is therefore not recognised as an aquifer. In these circumstances, the taking of groundwater has greater potential for stream depletion effects. Policy 5.6.1 directs that the potential adverse effects of groundwater takes will be managed in the same manner as surface water takes. The effect of the policy is that any take of groundwater will be included within the allocation provided from the river and the environmental flow set for the river will apply to any groundwater take. The benefit of this is that the natural and human use values supported by flow in the river will be maintained, and water users will have certainty as to which environmental flows and/or levels apply to their activity.

Costs

There are unlikely to be widespread or significant costs associated with this policy as, in effect, it is formalising an existing practise. There is the potential for water users to have different management applied to them than in the past if the review of the boundaries of water resources has resulted in a change to the source from which they are abstracting water (in terms of how it is defined in past and proposed planning documents). Any costs associated with this change are not so much a result of this policy, however this policy assists in defining the changes for those users.

Efficiency

This policy is an efficient method in which to provide users with clarity and certainty around how their abstractions are to be managed. As well as guiding consented water users, it also reassures permitted activity water users that stream depletion effects are being appropriately recognised as part of resource management, therefore protecting their access to water.

Effectiveness

This policy supports the attainment of Objective 5.6 as it identifies that Freshwater Management Units have been established in such a manner as to ensure that groundwater abstractions do not cause significant adverse effects on river flow.

Policy 5.6.2

Policy 5.6.2 – Manage the potential for groundwater takes in proximity to spring-fed streams on the Wairau Plain to cause a recession of the position of headwaters of the streams by establishing aquifer minimums below which the taking of groundwater must cease.

Benefits

This policy is intended to protect the spring systems of the Wairau Plain, such as Spring Creek, Fultons Creek and Murphys Creek, from the effects of water abstraction. These spring systems are highly valued by the community for the clear water that flows in them and their contribution to base water flows in other waterways during the summer. Managing abstractions by linking them to aquifer water levels will benefit the whole community, as well as protect the instream values of the springs.

Costs

The costs that will fall out of this policy will be felt by water permit holders within the mapped FMUs which relate to this policy, that is the Northern Springs FMU, the Central Springs FMU and the Urban Springs FMU. Currently within these areas water permit holders do not have any management levels/flows applied in line with the WARMP or general practice, although some individual consents may have limits established as part of their consenting process. For permit holders in these areas,

there will be costs associated with water restrictions being imposed at times when there is a significant and prolonged period with little or no rainfall. A review of the historical river flow and climate records indicates that the circumstances when restrictions would be imposed are likely to be very rare; however as future climatic conditions are unknown the potential costs are also unknown.

Efficiency

The efficiency of this policy is centred around the benefits to the community, permitted activity water users and flora/fauna of the springs versus the potential costs to individual water permit holders within these sectors. It is considered that the former outweighs the latter however it is acknowledged that water users in these areas have signalled their concerns about the water permit conditions that will be imposed as a result of this policy.

Effectiveness

This policy supports the attainment of Objective 5.6 as it identifies Freshwater Management Units in which groundwater abstractions will occur that will impact on river flows. The policy requires management to be applied to ensure there are no significant effects on the streams, which is directly in accordance with the objective.

Evaluation for Issue 5G

Issue 5G – Allocating more water than is actually required for any use creates the potential for inefficient use of water. This can compromise the sustainability of the resource and prevent other users accessing water.

Appropriateness of Objective 5.7

Objective 5.7 – The allocation and use of water do not exceed the rate or volume required for any given water use.

Relevance

Water is one of Marlborough's most significant natural resources. Inefficient allocation and use of water is potentially a significant issue in Marlborough, given that many water resources are at or are approaching full allocation. As described in Issue 5D, once allocation limits have been reached, the Council is unable to continue allocating water to other users. Allocating and/or using more water than is required for a particular use represents a lost opportunity for other potential users to gain access to water in a limit based management system. This can occur when water is allocated to a user but is not used or is lost through wasteful distribution/application methods. There will be cumulative social, cultural and economic effects from inefficient allocation and use of water once limits have been reached.

Therefore, Objective 5.7 is relevant in addressing Issue 5G to ensure that the greatest social, cultural and economic benefit can be derived from the water available for consumptive use. Efficient allocation and use of water has an important role to play in this respect, as it ensures that water is put to productive use.

The objective is focussed on achieving the purpose of the RMA. In particular Sections 7(b) *the efficient use and development of natural and physical resources* and 7(g) *any finite characteristics of natural and physical resources* are matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. Objective 5.7 also assists the Council in carrying out its statutory functions under Section 30 of the RMA in relation to establishing rules for the allocation and use of water.

In terms of high level documents, the objective is consistent with the provisions of the NPSFM. Objective B3 has particular relevance as this requires the Council to improve and maximise the efficient allocation of water. By providing for a management approach that ensures the allocation and use of water do not exceed the rate or volume required for any given water use, Objective 5.7 is assisting to ensure that efficient outcomes are achieved.

Feasibility

It is realistic for the Council to achieve Objective 5.7 within its power, skills and resources as water use, need and availability are issues that have been considered and worked on for many years, including targeted work as part of the review and the formation of the MEP. Allocations based on crop requirements is not a new approach, rather the methods for assessing water needs have been refined. Water metering is also not a new concept to water users on Marlborough, the policies that support Objective 5.7 simply provide greater clarification around recording water taken and used as we move forward in a water allocation space that is dominated by full and over-allocation. Objective 5.7 carries with it an acceptable level of uncertainty and risk.

Acceptability

Most water users do not have any desire to use more water than they need for their given water use. Although the taking of water itself may not carry a cost, there are many costs by association such as infrastructure and power. The more water that is taken and used, the higher these costs can be therefore water users operating under best practice will be aligned with this objective. It is of interest to the wider community to enable growth and development, this requires water to be available for new uses. Ensuring water is not being tied up unnecessarily due to inefficient use is an important part of recognising the need to not limit potential opportunities. Aligning water allocations with actual need will not result in unjustifiably high costs on the community or parts of the community, particularly as best practice and historic meter records show that the adjustment to an individual's paper allocation is most often going to remove a portion of their allocation not actually required or being used.

Assessment of provisions to achieve Objective 5.7

Policies 5.7.1, 5.7.4 and 5.7.5

Policy 5.7.1 – When resource consent is to be granted to use water, every proposed use will be authorised by a separate water permit. Categories include municipal, irrigation, industrial, residential, commercial and frost fighting.

Policy 5.7.4 – Require water permit holders to measure their water take with a pulse emitting meter, to record water take and use with a data logger, and to transfer the recorded water take and use information by the use of telemetry. Alternative methods of measurement, recording or transfer that provide the Marlborough District Council with accurate water take and use data may be considered.

Policy 5.7.5 – Separate measurement will be required to record different categories of water use, but not for different uses within each category. Categories include municipal, irrigation, industrial, residential, commercial and frost fighting.
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Benefits

By requiring a separate water permit to authorise the use of water, the positive and adverse effects of the use of water as opposed to just the take of water can be recognised and, where necessary, appropriately managed through the processing of the resource consent application. Policy 5.7.1 establishes separate categories of use, which are then required to be measured in accordance with Policies 5.7.4 and 5.7.5. These policies help to give effect to Policy CC1 of the NPSFM, which requires the Council to account for the proportion of water taken for each major category of use. Water use information is requested by central government on an annual basis for the purposes of national reporting. The categories in the policy reflect the nature of those requests.

Policy 5.7.4 requires all water takes authorised by way of resource consent to be accurately metered. The benefits from information gained through the measurement of water take and use are that:

compliance with the water allocations provided by water permits and the conditions imposed on water take and use can be established (e.g. compliance with water restrictions);

accounting for (and reporting) the cumulative rates of take within a freshwater management unit can occur as required by Policy CC1 of the NPSFM;

the extent of water available at any point in time is known; and

a relationship between cumulative rates of water take and the water resource response can be established or refined.

Costs

It is not anticipated that there will be any new cost for metering water takes above what is currently required through the existing planning documents and current practice. Even for water use the additional costs will vary from user to user and in many circumstances there will not be any. In some instances, costs may be less as the current practice of metering the irrigation of different crop types is not required in the policies of the MEP.

Efficiency

The policies establish the requirements with respect to measurement of water taken and used in Marlborough. Data loggers provide accurate records and their use avoids the need for manual readings. The use of telemetry ensures the transfer of recorded data to the Council in a timely fashion. In the future, these efficient means of recording and transferring water take and use information will also assist in enabling the transfer of water permits between users, as provided for under Policy 5.4.4. By providing users with real time information on water user relative to limits, metering establishes the extent of water availability at any point in time.

Effectiveness

The policies will be effective in achieving Objective 5.7 as they will ensure that water taken and used is compliant with the allocations given for different uses. By measuring water taken and used exceedances will be known and can be addressed. In addition, the gathering of this information over time will increase the knowledge about water use requirements for different types of use.

Policies 5.7.2 and 5.7.3

Policy 5.7.2 – To allocate water on the basis of reasonable demand given the intended use.
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Policy 5.7.3 – Water permit applications to use water for irrigation will not be approved when the rate of use exceeds the reasonable use calculation, except where the applicant can demonstrate that they require more water based on property specific information.
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Benefits

One of the ways in which efficient use of water can be achieved is by ensuring that the allocation to the user does not exceed that which is reasonably required for the use. In the case of irrigation, the Council will provide users with a tool, IrriCalc, to estimate water demand for the crop, based on the soil type(s) and climate that exist at the property. IrriCalc uses existing soils information and modelled climate data to provide estimates of water use for all crop types. To ensure efficient use of water for irrigation, the Council will generally not grant water permits to use water for irrigation purposes at a rate that exceeds the reasonable use calculation provided by IrriCalc. While Irricalc will guide allocations for irrigation, this policy also signals that other uses of water will also be granted on the basis of reasonable use, therefore information, such as past water use data, that will assist in this determination will be important to include in resource consent applications.

Policy 5.7.3 recognises that the calculation is a modelled calculation and may not accurately estimate reasonable use in all circumstances. For this reason, the policy provides resource consent applicants the opportunity to provide property specific information on the factors that influence crop demand that may demonstrate a higher rate of water use than IrriCalc would otherwise indicate.

These policies help give effect to Policy B4 of the NPSFM.

Costs

The current planning instruments contain irrigation rates that have been used as a basis for the allocation of water in resource consents, so consideration of costs is relative to the changes in approach between the past and the policies of the MEP. The key difference is that the previous approach was “broad-brush” and there was no consideration given in the policies to differences in soil conditions and climate variations at different locations. The use of Irricalc changes this approach and there will be some users who will be allocated less than they are now and some that will be allocated more. However, as Irricalc reflects the actual water requirements of crops, the cost to water users who have a decreased allocation will be perceived rather than an actual decrease in their ability to give their crops the water they need.

For water users who choose to not apply for water on the basis of the Irricalc allocation, there will be costs associated with providing alternative information to justify a different allocation. This is similar to

the current situation when a user wishes to exceed the irrigation rate in the existing planning documents.

Efficiency

The benefits of allocating water based on reasonable demand is that the available water can be spread as widely as possible between existing and new water users. There is less wastage within the system, less water held that will never reasonably be used. The benefits of using an irrigation demand tool is that the allocation granted is more fit-for-purpose based on location specific information and irrigation best practice. These benefits outweigh the potential costs of these policies, which are unlikely to be additional over-and-above the current approach, or are likely to be perceived rather than actual costs.

Effectiveness

These policies directly support the attainment of Objective 5.7 by providing the method in which allocations are going to be made to ensure that allocation and use of water do not exceed the rate or volume required for any given use.

Policy 5.7.6

Policy 5.7.6 – Have regard to the efficiency of the proposed method of distribution and/or irrigation in determining resource consent applications to use water for irrigation purposes.
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Benefits

The way in which water is distributed and/or applied to a crop can influence the technical efficiency of water use. Methods or practices of distribution and/or application that are wasteful (relative to crop demand) are inappropriate within a limit-based water management system. This policy guides decision makers considering a water permit application to have regard to how efficient the proposed method of delivering or using the water is so as to ensure it is not wasteful.

Costs

Inefficient methods of irrigation have not been a widespread issue; however, the potential exists for a significant volume of water to be wasted over a sustained period, even from only one water user. If that situation exists in a particularly vulnerable water resource, there could be consequences for water users and the environment. As there is a cost to an irrigator for using water, e.g. power charges, it is unlikely that many irrigators will be using inefficient methods of application. The potential costs to individual water users as a result of this policy are considered to be less than the potential costs of an inefficient irrigation method to the whole of the community and/or the environment.

Efficiency

In a region where water resources are almost all fully or overallocated, the inefficient use of the water that is available and allocated to resource users is unacceptable. If they are using an inefficient irrigation method, it is likely that they have more water than the plants actually require, that is water that could be allocated to another water user so it represents an opportunity cost. While the circumstances in which inefficient water use may be an issue in Marlborough may not be commonplace, the benefits to the community are worthy of this policy to ensure this precious resource is not needlessly wasted.

Effectiveness

This policy supports the attainment of Objective 5.7 as should a water user seek additional water based on their method of irrigation, the efficiency of that method will be a consideration for decision makers. The allocation of water through the use of Irricalc is likely to be very generous in average circumstances, this enables water to be freed up for transfer to other users. If water, even within the Irricalc allocation, is used in an inefficient manner this could represent a lost opportunity for other water users as less water will be available for transfer.

Policy 5.7.7

Policy 5.7.7 – Allocate water for domestic needs on the basis of five cubic metres per household per day.

Benefits

The MEP contains a Permitted Activity rule specifying that a reasonable abstraction for an individual's domestic needs is five cubic metres per household per day. The purpose of this policy ensure to water taken for this purpose but which requires a water permit, for example, water supply for multiple dwellings from a single take point, is allocated on the same basis. This benefits all water users as it represents an equitable approach and ensures no domestic water users are allocated more water than is reasonable for that purpose. In some locations, when existing water permit holders allocated water for domestic purposes have their allocations adjusted in accordance with this policy, an additional benefit is likely to be that the reduction will help the Council to address over-allocation in accordance with Policy B6 of the NPSFM.

Costs

There may be some perceived costs for consent holders that have their consented allocations reduced as a result of this policy, however the allocation provided in Policy 5.7.7 is considered generous in most circumstances and certainly sufficient for domestic purposes. If water users are using more than 5 cubic metres per day, it is more likely they are using the water inefficiently or for non-domestic purposes.

Efficiency

It is likely the costs of this policy are more perceived than an actual loss to an individual. The benefits to the community outweigh any individual costs, particularly in areas of overallocation. An equitable approach to allocation for individual domestic need is appropriate, and worthy of some potential cost to a few water permit holders. In many instances where developers have water permits to service multiple dwellings, the allocation limit is already at or below 5 cubic metres per day so those people will be unaffected by this policy.

Effectiveness

Objective 5.7 is all about connecting allocation with reasonable need, this policy therefore supports this objective as it provides specific direction as to what is required for this particular water need.

Frost Fighting**Policies 5.7.8 to 5.7.11**

Policy 5.7.8 – Approve applications to take and use water for frost fighting purposes only where there are no effective alternative methods for frost control on the property.
Policy 5.7.9 – A limitation will be imposed on the maximum rate of use of water for frost fighting purposes of 44 cubic metres per hour per hectare.
Policy 5.7.10 – Avoid taking water for frost fighting purposes during periods of peak irrigation demand (1 January to 30 April in any calendar year).
Policy 5.7.11 – Where water is to be stored for the purpose of frost fighting, require a minimum storage volume equivalent to three days of frost fighting demand. In addition, where water is proposed to be taken to replenish stored water used during a frost event, have regard to effect of the rate of refill on other water permit holders and the natural and human use values supported by the source waterbody.

Benefits

Although the use of water for frost fighting may be efficient for protecting crops, it involves significant volumes of water at very high rates of use (compared to irrigation). For this reason, the use of water for frost fighting is not considered a very efficient use of water, especially in circumstances where water resources are fully allocated or are approaching full allocation. Policy 5.7.8 provides water users and decision makers clear direction that water permits for frost protection purposes should not be approved unless there are circumstances where alternative methods of frost protection are not effective.

If under Policy 5.7.8 a water user is identified as being in situation where alternative frost protection methods are not effective, subsequent policies identify appropriate rates of use of water for frost fighting to avoid excessive use of water and the time of year when water can be taken. Policies 5.7.9 and 5.7.10 provide resource users and decision makers with specific information to guide their resource consent applications/decisions.

Policy 5.7.11 recognises that stored water is often used to supply water for frost protection and that it is reasonable for people to replace the water used from the reservoir/dam for frost protection, particularly if subsequent frosts are predicted. Because the rate of abstraction of water to refill the reservoir/dam can be high and may lead to adverse effects on the natural and human use values supported by the waterbody. This policy benefits the environment and other users of water by ensuring storage capacity is sufficient to offset the high rates of replenishment required.

Costs

The costs of the policies are most likely to be limited to resource consent costs. There may be costs associated with the requirement to have storage facilities for the equivalent of three days of frost fighting, however it is likely that in many situations storage facilities are also used for irrigation back-up supply, rather than just in times of frost. There may be some areas where there are more efficient methods of frost protection than using water but for some reason they are not being utilised. Therefore, there is the possibility that an individual with a current water permit for frost protection may not get that permit replaced on expiry as it would not be sustainable to do so under Policy 5.7.8, and that may result in costs associated with the establishment of an alternative means of frost protection.

Efficiency and Effectiveness

Policy 5.7.8 will not be particularly efficient or effective in achieving Objective 5.7 particularly as the policy acknowledges that using water for frost fighting is not efficient as it involves significant volumes of water and at very high rates of use when compared with irrigation. This situation is further compounded if water is to be taken for frost fighting in areas where water resources are fully allocated or are near to full allocation. The hurdle to get over to determine that in any particular circumstance there is no other effective alternative method available for frost fighting is reasonably high. In the context of situation where using water is necessary, Policies 5.7.9 and 5.7.10 go some way to achieving Objective 5.7 as they limit the rates and times of water use.

Evaluation for Issue 5H

Issue 5H – Demand for water typically peaks when river flows and aquifer levels are at their lowest, which can cause short-term water availability issues.

Appropriateness of Objective 5.8

Objective 5.8 – Maximise the availability of water within the limits of the resource.

Relevance

Water availability varies significantly in Marlborough, both in time and location. There are methods by which water that is available at different times of year (due to higher rainfall and lower evapo-transpiration), or available at other locations, can be made available to help resolve short-term water availability issues. Examples can include the storage of water and/or augmentation of water resources from other sources. Objective 5.8 seeks to maximise water availability in order to mitigate the significant negative effects of water shortages, and is therefore directed at addressing the resource management issue identified in Issue 5H.

The objective is focussed on achieving the purpose of the RMA. In particular Sections 7(b) *the efficient use and development of natural and physical resources* and 7(g) *any finite characteristics of natural and physical resources* are matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. Objective 5.8 also assists the Council in carrying out its statutory functions under Section 30 of the RMA in relation to establishing rules for the allocation of water.

In terms of high level documents, the objective is consistent with the provisions of the NSPFM. Objective B3 has particular relevance as this requires the Council to improve and maximise the efficient allocation of water. By providing for a management approach that encourages water to be taken for storage to be used in times of low flow, Objective 5.8 is assisting to ensure that efficient outcomes are achieved.

Feasibility

The sustainable yield from the water resource can place natural limits on the ability to achieve Objective 5.8, but where there are opportunities to supplement water resources, this will result in a more resilient economy and community. Storage is the most likely means by which the availability of water can be maximised, particularly by an individual water user but augmentation schemes such as the Southern Valleys Irrigation Scheme are also able to assist. Given that both of these methods are already in practice in Marlborough. The objective is feasible to achieve and is within the Council's powers, skills and resources.

Acceptability

Through the consultation there was feedback received on the shortage of water at times in Marlborough's dry climate. A number of the responses through early consultation identified that storage dams were necessary in areas where summer water resources are inadequate. Some respondents thought that water schemes for irrigation should not be built at ratepayers' expense. Others suggested landowners who had access to a water scheme should have their groundwater water rights revoked (except for where water was to be used for potable supplies.) This was perceived to ensure there was a better recovery of aquifers with dangerously low levels.

Through the later consultation in 2015 the feedback received on storage proposals was supported by respondents. This included support for enabling A and B Class water to be able to be taken to storage as a top up. The Council considers that implementing Objective 5.8 will not result in unjustifiably high costs for the community or water users.

Assessment of provisions to achieve Objective 5.8***Policies 5.8.1, 5.8.2 and 5.8.4***

Policy 5.8.1 – Encourage the storage of water as an effective response to seasonal water availability issues.
Policy 5.8.2 – Provide for the abstraction of surface water for storage purposes during periods of higher flow for subsequent use during periods of low flow (and therefore low water availability).
Policy 5.8.4 – The annual volume of water taken for storage shall not exceed a volume equivalent to the authorised rate of take for irrigation purposes for two irrigation seasons for the property or properties to be served by the stored water.

Benefits

Given Marlborough's dry climate, especially over the summer months, storage of water has been used as a common strategy to offset temporary shortages of water for irrigation purposes. Storage has involved the interception of runoff by damming ephemeral water bodies, the damming of intermittently or permanently flowing water bodies and the placement of abstracted water in purpose-built reservoirs. There may also be the potential to augment river flow from the stored water.

Utilising higher flows in surface waterbodies to offset the shortage of water for irrigation during periods of low flow is an efficient and effective water management mechanism. The abstraction of water during periods of higher flow and the placement of this water into storage have been enabled for some time in Marlborough through Class C water permits. This regime is proposed to continue in the MEP. It will assist water users to manage water shortages in a limit-based management regime, especially in response to the effect of any suspension of Class A or Class B water permits in accordance with other provisions in the MEP. "Higher flows" will be defined by rules which will set minimum flows below which water cannot be taken for storage through Class C water permits.

The main benefit of limiting the annual volume of water taken for storage is that availability of the resource is maximised by ensuring no individual is locking up an allocation of water that they will not reasonably require at the expense of a potential new user. Policy 5.8.4. is considered to be generous in that it enables an irrigator to abstract in a single year enough water to store for two full irrigation seasons. This also creates a degree of flexibility that can be considered during the design of the dam capacity.

Costs

In general, the costs of damming water are unlikely to change as a result of these policies. Moving into an environment where water is managed within full or over allocated states, the mitigation of the effects of on-stream dams may increase in establishment and operation costs in the future. It is not

possible to predict where, when and to what specifications land users may wish to establish dams in the future so costs are not quantifiable, in any case, they would not be additional costs generated by these policies anyway. As encouragement of storage through a controlled activity for C Class water abstractions is the continuation of an existing approach, this policy will not result in any additional costs. While Policy 5.8.4 is new to the formal management of water resources, it has been practiced for many years and is not anticipated to result in costs that outweigh the benefits of the policy.

Efficiency and Effectiveness

The policies will be efficient and effective in achieving Objective 5.8 and addressing Issue 5H. Encouraging the storage of water to provide for irrigation when availability is limited assists in maximising the use of this resource by taking advantage of times of plenty to smooth out times when demand exceeds supply. Enabling water to be stored to cover consecutive dry seasons, while limiting the volume to a reasonable allocation, is an efficient and effective approach to balancing the needs of existing and new users so the availability of water is maximised.

Because this approach relies on the abstraction of water in times of high flow through a Class C abstraction, there are no consequences for other users with higher reliability water permits. Additionally, because environmental limits for the surface water resources are still met there are no environmental costs. Therefore, the most efficient use of available water is able to occur. The continuation of the approach from the MEP is considered the most effective way to meet Objective 5.8.

Policy 5.8.3

Policy 5.8.3 – Water may be stored at times other than those specified in Policy 5.8.2 to provide water users with greater flexibility to manage water use on-site, provided that the rate of take does not exceed the authorised daily rate of take for irrigation purposes.

Benefits

While the C class allocation exists to enable access to water for storage purposes under the circumstances set out in Policy 5.8.2, taking water allocated under another class for storage may be appropriate in some circumstances. For example, some rivers experience periods of high turbidity that can make run-of-the-river abstraction particularly difficult due to the effect on irrigation distribution systems. The storage of water during the irrigation season provides for a back-up supply of irrigation water when access to Class C water may otherwise be restricted or where no Class C has been established. There may also be short-term peaks in flow over the irrigation season in response to rainfall events that, while not sufficient to reactivate access to Class C, still create an opportunity to store water. This policy recognises these circumstances by enabling the storage of Class A or Class B water with the proviso that the rate of take of water for storage purposes is limited to the authorised daily take for irrigation purposes.

Costs

This approach to storage of water is new as up until now the Council has had quite a strict approach of not allowing this to occur. From a user's perspective this has created a significant opportunity cost in some catchments (i.e., this is water that could have been stored that would improve the efficiency and reliability of on farm irrigation systems). The potential environmental costs created by allowing this additional abstraction to occur are managed through the limit on the rate of take. In other words, the user can only abstract at a rate that they would have been taking for irrigation purposes as allowed by their consent. So on paper, the policy would not result in any increase in the daily rate of paper take.

Efficiency and Effectiveness

Policy 5.8.3 will be efficient and effective in maximising the availability of water as sought in Objective 5.8. Flexibility is provided for the consent holder to decide how water will be used on any given day, but also ensures that the abstraction would have no greater effect on existing users than the daily take solely for irrigation purposes. This will help ensure that water availability is maximised in order to mitigate the significant negative effects of water shortages, especially for primary production activities relying on irrigation. The sustainable yield from the water resource can place natural limits on the ability to achieve this objective, but where there are opportunities to supplement water resources, these will result in a more resilient economy and community. The policy will therefore also assist in Issue 5H as well as Issue 5C.

Policy 5.8.5

Policy 5.8.5 – All water placed in storage should be accurately accounted for.

Benefits

It is important to account for water taken from freshwater bodies for storage purposes as it represents a permanent removal of water from the freshwater resource. Policy 5.8.5 does not establish a set methodology for accounting in these circumstances, as there has been, and will continue to be, a wide diversity of distribution systems developed by individual water users in response to the circumstances that exist on their property. The appropriate accounting system will be developed on a case-by-case basis through the consenting process, but as a minimum requirement must accurately account for water taken from the freshwater resource that would not otherwise be accounted for through the metering requirements established by Policy 5.7.4. Accounting for water that is stored assists with determining the extent of water available in a resource.

Costs

There are costs associated with setting up systems to record and account for the volume of water stored. However, water users already experienced costs of this nature under the provisions of the previous planning documents so they are not new.

Efficiency and Effectiveness

The NPSFM requires regional councils to establish and operate a freshwater quantity accounting system for those freshwater management units where environmental limits are being set. The intent of this is to improve information on freshwater takes in order to ensure the necessary information is available for meeting requirements of the NSPFM for setting environmental limits and/or flows and to make sure information on resource availability is available for current and potential resource users.

Accounting for water stored (which has been taken from a water resource) means that the Council is able to more accurately determine what the state of the resource is and whether conditions of resource consent are being met. This enables the Council to ensure that use of water within the limits of the resource is maximised thereby assisting to achieve Objective 5.8.

Evaluation for Issue 5I

Issue 5I – There is the potential for a new water user to get access to water on a more reliable basis than allocations already made, resulting in inequitable outcomes.

Appropriateness of Objective 5.9

Objective 5.9 – Ensure that water users in the same or similar circumstances are treated in the same manner when it comes to securing access to water.

Relevance

Objective 5.9 is directly aimed at addressing Issue 5I in which the potential for inequitable outcomes in the allocation of freshwater resources is highlighted. This is particularly in circumstances where a freshwater resource is near full allocation or if fully allocated, water becomes available through a resource consent lapsing, only being partially exercised or surrendered. To ensure that equitable allocation occurs, especially in relation to the reliability on which allocations are made, the objective seeks to treat water users in the same or similar circumstances in the same manner.

The objective is focussed on achieving the purpose of the RMA. In particular Sections 7(b) *the efficient use and development of natural and physical resources* and 7(g) *any finite characteristics of natural and physical resources* are matters that the Council must have regard to in promoting the sustainable management of water resources in Marlborough. Objective 5.9 also assists the Council in carrying out its statutory functions under Section 30 of the RMA in relation to establishing rules for the allocation of water.

In terms of high level documents, the objective is consistent with the provisions of the NSPFM. Objective B3 has particular relevance as this requires the Council to improve and maximise the

efficient allocation of water. By establishing a process by which water can be reallocated equitably, Objective 5.9 is assisting to ensure that efficient outcomes are achieved.

Feasibility

The Council has not previously had a system in which the allocation of freshwater resources is balloted. So to some extent it is difficult to determine the feasibility of the objective. However, if the process that is set up through the subsequent policies is able to be implemented then the objective will be feasible. The establishment of the provisions is within the Council’s powers and skills to achieve. There will be costs associated with the setting up and operation of a ballot system but the Council considers these are justified to ensure equitable outcomes for the reallocation of water results.

Acceptability

Through the consultation with the community and the Water Allocation Working Group, there has been concern expressed at the use of the first-in, first-served method of reallocating water in situations where that water is a scarce resource. This is because under the Council’s class system for the allocation of water, when water does become available for reallocation it will have an inherent reliability depending on when that water was first allocated relative to other subsequent allocations. This may result in an applicant gaining access to water under more favourable circumstances. Objective 5.9 therefore addresses these concerns by ensuring that water users are treated equitably.

While there will be costs associated with establishing the system proposed through subsequent policy, the Council does not consider these would be unjustifiably high for the community. Any costs are likely to be offset by the fact that water not being used, but which is able to be used within established environmental flows or levels, can be reallocated. This will also assist in achieving other objectives of Chapter 5 in relation to Marlborough’s social and economic wellbeing relying on an adequate supply of freshwater and in terms of Objective 4.1 (Chapter 4 - Use of Natural and physical Resources) where the aim is that Marlborough’s primary production sector and tourism sector continue to be successful and thrive whilst ensuring the sustainability of natural resources.

Assessment of provisions to achieve Objective 5.9

Policies 5.9.1 to 5.9.3

Policy 5.9.1 – Once an allocation limit is reached and that part of the water resource is fully allocated, any water that subsequently becomes free to allocate to other users will only be made available to those users through a system of ballot.
Policy 5.9.2 – On securing the ballot, the successful ballotter must apply for the necessary water permits to authorise the taking and (if relevant) use of water. Until the successful ballotter(s) secures the necessary water permits, the water resource is considered fully allocated.
Policy 5.9.3 – If required, any ballot will be conducted on the following basis: (a) at least annually for the calendar year; (b) if the water permit holder already holds a water permit to take and use water for the same purpose, then they must surrender the original water permit before giving effect to the new water permit; and (c) if the subsequent water permit application to authorise the taking of water is not made within 12 months of the ballot result or the water permit application is refused, then that water will be re-balloted in the subsequent year.

Benefits

The approach applied to the re-allocation of water from fully allocated resources set out in these policies ensures that anyone with an interest in obtaining water has an equal opportunity to gain access to the resource. The current first-in, first-served, approach is opportunistic, in that if someone happens to become aware of water that becomes available and they are the first to apply for it then they hold a position of priority. As an example, this potentially means that if some A Class water became available and a new water user was “first in” then they may hold a more reliable permit than a long time water user holding a B Class permit.

The policies set out how the available water will be re-allocated and the status of the water during the process. This provides certainty for water users and water planners/managers.

Costs

Running the ballot system itself will incur some costs for the Council, however these potentially could be offset by ballot participants. There is the potential for individual costs to be incurred by participants in the ballot with no benefit if they are unsuccessful. The consenting costs for the successful ballot would be no different than if application for water was made as a result of an allocation being available under a first-in, first-served regime.

Efficiency

Equity is very important to people. The reliability level of a water allocation held can impact on business decisions and financial bottom lines. The benefits to the whole community from having a system of water re-allocation that is equitable and transparent outweigh the administrative costs and the individual costs of people seeking water.

Effectiveness

The ballot system is an effective method of ensuring that water users in the same or similar circumstances are treated in the same manner when it comes to securing access to water. It enables everyone interested in a new allocation of water to have an equal opportunity to secure the ballot. This will ensure that Objective 5.9. is achieved and Issue 5I is addressed.

Methods of implementation for Objectives 5.1 to 5.9

The methods of implementation are largely unchanged from the previous planning documents, notable differences are the use of an irrigation demand model to determine appropriate levels of allocation for water use for different crop types, the introduction of a ballot system for the reallocation of water in FMUs which have previously been fully allocated (considered a more equitable alternative to first in, first served), and the establishment of a digital platform to provide water users with real time information about water resources and their water permits.

The use of regional rules in the General Rules chapter is the continuation of an existing method of implementation, which is further clarified, extended or modified as is appropriate to respond to the outcomes of the review process.

Other options considered to achieve Objectives 5.1 to 5.9

The NPSFM provides specific national direction for managing the allocation and use of fresh water which the Council is required to give effect to. This includes:

- setting environmental flows and/or limits;
- providing for efficient allocation;
- stating criteria for transfers;
- encouraging the efficient use of water; and
- phasing out over-allocation of water resources.

The MEP must therefore contain provisions addressing the above matters.

Given the importance of freshwater in Marlborough in terms of enabling the use and development of other natural resources, and taking into account the natural and human use values that some water bodies support, it is not surprising that Marlborough has been operating under a limits based regime for allocation and use of freshwater since the mid-1990s. The provisions of the MSRMP and WARMP include both minimum flows for rivers and allocation limits for rivers and aquifers. To an extent, the Council is therefore already giving effect to the NPSFM through the operative provisions of the resource management plans.

The efficiency and effectiveness of the existing allocation frameworks (in terms of providing reasonable access to water, while safeguarding the life-supporting capacity of Marlborough's freshwater resources and sustaining their ability to provide for the reasonably foreseeable needs of future generations) was evaluated as part of the review process. The collection of resource use and

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environmental data as part of state of the environment monitoring, compliance monitoring and resource investigations has allowed for a thorough review of the existing environmental flows and limits. Where analysis of the data indicates that the management is either not sufficiently protecting the resource (or the natural and human use values it supports) or is unnecessarily constraining resource use, changes to the existing environmental flows and limits are proposed.

The MSRMP and WARMP do not set minimum aquifer levels. To give effect to the NPSFM, minimum aquifer levels are included in the MEP for the aquifer dominated FMUs.

As set out elsewhere in this report, the Council used the Water Allocation Working Group to identify and evaluate options for addressing issues with respect to the allocation and use of water. This group provided recommendations to the Council which were adopted initially for the purposes of consultation and, on completion of the consultation, for inclusion in the MEP.

The most significant new issue to emerge through the review process is the effect of the full allocation of water resources. Under the NPSFM, the Council cannot continue to allocate water once an allocation limit is reached. As recorded in Issue 5D, this creates a significant risk that opportunities for economic growth will be constrained. The main task of the Water Allocation Working Group was to identify and assess options for addressing the constraints that full allocation presents. The Water Allocation Working Group was only able to identify the option of transfer of entitlements, specifically a system of enhanced transfer, to improve the use of water for most water resources.

The option of increasing allocation limits to provide access to additional water was considered. Except in a limited number of cases, it was established that an increase in allocation and the subsequent additional use would give rise to unsustainable outcomes in terms of declining aquifer levels, adverse effects on existing water users through reduced reliability or adverse effects on the natural and human use values supported by rivers. All aquifer dominated FMUs are over-allocated so this option did not exist for groundwater abstraction. For a limited number of river dominated FMUs, the option of increasing allocation limits was recommended by the Water Allocation Working Group.

The other issue the Water Allocation Working Group examined was methods for phasing out the over-allocation for the Benmorven FMU, Brancott FMU, Omaka Aquifer FMU, Riverlands FMU and the Wairau Aquifer FMU. The management responses recommended, and reflected in Policies 5.5.4 and 5.5.5, are specific to each resource.

The option of proportional reductions in the individual consented allocations was considered for the Wairau Aquifer FMU and Riverlands FMU. The implementation of Policies 5.7.2 and 5.7.3 will result in reductions in the paper allocation of water for reasons of efficiency. These projected reductions are sufficient to address the extent of over-allocation, so additional clawback was not considered necessary, especially considering the costs to existing water users. This option results in water users retaining sufficient water for the current authorised uses.

The extent of over-allocation for the Benmorven FMU, Brancott FMU and Omaka Aquifer FMU and clawback in paper allocation is required. The Water Allocation Working Group did consider options for achieving the clawback. Equitable outcomes were a significant driver in this consideration. The option of applying the proportional reduction on receiving applications for resource consent to continue taking groundwater from one of these FMUs was considered instead of utilising Section 128 of the RMA. Given that the existing water permits do not have a common expiry date, this option would see reductions applying at different times. This was not considered to be an equitable outcome.

Many of the users in the Southern Valleys also have access to an alternative supply of water via the Southern Valley Irrigation Scheme. Some members of the Water Allocation Working Group promoted the option of requiring water permit holders to use the scheme in preference to groundwater. However, this option was not recommended on the basis that sustainable abstraction from the aquifers is still possible if the clawback is applied. The proportional reduction in paper allocation may result in greater use of the scheme regardless through voluntary uptake to maintain production levels.

In most cases, there were no options for giving effect to the water allocation and use objectives of Chapter 5 other than those reflected in the proposed provisions or the existing provisions of the MSRMP and WARMP. In many circumstances, the existing approach to achieving the same or similar

objectives has proven to be efficient and effective through the administration of the MSRMP and WARMP.

There were other options for enabling access to reliable supplies of freshwater. The Water Allocation Working Group identified the following:

- Allocating water preferentially to priority uses: the difficulty with this approach was establishing how to determine priority uses. The Water Allocation Working Group did not see it appropriate to “pick winners” in the absence of any methodology for establishing priority;
- Allocating water on the basis of a different reliability than that set out in Policy 5.3.7: There was feedback received during consultation requesting that allocations be determined on the basis of 100% reliability. The Water Allocation Working Group noted that this option would result in increased individual allocations but also determined that (without change to the allocation limit) the option would result in some existing users losing access to water for reasons unrelated to over-allocation. This outcome would not achieve Objective 5.3.

The appropriate duration of water permits received through consideration by the Water Allocation Working Group and was also raised during consultation. Many water users sought 30 or 35 year water permits to provide greater certainty. This is reflected in Policy 5.3.14(a). However, this option was not pursued for the circumstances set out in Policy 5.3.14(b) and (c). This was because a long duration could constrain the Council from addressing over-allocation as required by the NPSFM and did not reflect the uncertainty that exists through the application of default minimum flows. In these circumstances, it was considered that the ability to re-examine the allocation and the circumstances under which it can be accessed on a more frequent basis better gave effect to the NPSFM and Section 5 of the RMA.

Similarly, a longer lapse period than set out in Policy 5.4.1 was considered by the Water Allocation Working Group. However, it was considered that a longer lapse period was inappropriate when water is a scarce resource in Marlborough and there is significant competition for available water. Delays in giving effect to water permits were not considered to be efficient when other users may be able to put the same water to productive use in a shorter time frame.

Policy 5.6.1 results in the application of provisions for managing the adverse effects of abstraction from rivers to takes of groundwater where there is no recognised aquifer. The Water Allocation Working Group considered an option of setting thresholds for the application of surface water management. Despite thorough analysis, a defensible threshold(s) was not able to be established.

The Council could have stayed with the first-in first-served approach to the reallocation of water that becomes available in areas of full allocation. Taking this approach would mean that it was up to a water user to be aware of when water becomes available and apply accordingly. The Council has said through Policy 5.3.2 that it will provide water users with information about the amount of water available for abstraction and the circumstances under which it is available. This would be publically available on the Council’s website and all water users would have access to this information and could apply accordingly.

However, given there is competition for water in a number of the freshwater management units that are approaching or are at full allocation, the Council considers it to be more equitable to have some control over the way in which applications can be made. This means that all water users are being treated in the same manner, including importantly in relation to the reliability of the water. This also means that the potential for conflict within the community about how water is reallocated is reduced significantly.

Risk of acting or not acting

In terms of Section 32(2)(c) of the RMA, which requires an assessment of the “*risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions,*” the Council and its predecessor (the Marlborough Catchment Board and Regional Water Board) have a considerable history of allocating freshwater and managing the taking, use, damming and diversion of

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freshwater. Marlborough's agricultural and viticultural sectors have historically relied on irrigation in Marlborough's dry climate with the water sourced from rivers and aquifers. There have been allocation frameworks in place since 1995 in north Marlborough and 1997 in south Marlborough to manage the demand for freshwater. Those allocation frameworks included minimum flows for rivers and allocation limits for rivers and aquifers.

The review of the WARMP and MSRMP considered the efficiency and effectiveness of the existing allocation frameworks in terms of providing reasonable access to water, while safeguarding the life-supporting capacity of Marlborough's freshwater resources and sustaining their ability to provide for the reasonably foreseeable needs of future generations. The collection of resource use and environmental data as part of state of the environment monitoring, compliance monitoring and resource investigations has allowed for a thorough review of the existing environmental flows and limits. Where analysis of the data indicates that the management is either not sufficiently protecting the resource (or the natural and human use values it supports) or is unnecessarily constraining resource use, changes to the existing environmental flows and limits are proposed. In summary, the Council is satisfied that the proposed provisions provide for the sustainable allocation of fresh water.

For reasons given in the previous paragraph, there is certainty regarding the allocation status of Marlborough's freshwater resources. Many water resources are at full allocation and five aquifers are over-allocated. In the latter case, the collection of meter use data has allowed for the establishment of an accurate relationship between cumulative abstraction levels from the aquifer and aquifer level. Therefore, there is a low level of risk involved in the proposals to address over-allocation under Objective 5.5.

In terms of ensuing efficiency of water use, the Council and the Water Allocation Working Group were usefully informed by 10 years of research into the water demand of grapes in Marlborough. The results of water demand for other crops and pasture from other locations was also able to be drawn upon. The resulting provisions regarding efficiency of water use therefore involve minimal risk. The use of (modelled or actual) property specific information in determining water allocations will reduce the risk of inefficient use of water in the future.

It is not considered that there are significant risks of acting in the manner set out in the provisions of Chapter 5 in terms of allocating water and managing the effects of the taking, use, damming and diversion of fresh water.

There are issues that do involve uncertainty or insufficient information. These are detailed below:

- The most significant new issue to emerge through the review process is the effect of the full allocation of water resources. Under the NPSFM, the Council cannot continue to allocate water once an allocation limit is reached. As recorded in Issue 5D, this creates a significant risk that opportunities for economic growth will be constrained. The main response to this issue is to enable people to gain access to allocated but unused water through the transfer of entitlements, as recorded in Policy 5.4.3. In time the Council proposes to introduce a system of enhanced transfer through a plan change to make any such transfer easier to achieve. There is uncertainty around the extent to which the community will engage in such a system. Policy 5.4.3 provides the opportunity for transfer to occur and the Council will provide other tools available to encourage water users to use the opportunity.

It is considered that the risks involved in not enabling the transfer of entitlements are far greater however. In the absence of the opportunity to transfer, the allocation limits required under the NPSFM will prevent additional demand for water from being met. There would also be a reduced incentive to improve the efficiency of water use. The water freed-up through efficiency improvements is water that could be used by other users through a system of transfer.

- There is uncertainty with respect to the mechanism of recharge for Marlborough's most significant groundwater resource, the Wairau Aquifer. Over 600 water permits authorise the abstraction of water from the Wairau Aquifer predominantly for irrigation and the processing of crops. The aquifer is recharged from Wairau River flow. However, the relationship between flow in the Wairau River and Wairau Aquifer level is not well understood. Establishing a minimum aquifer level in these circumstances creates a

significant risk that the management will unnecessarily constrain existing water users. For this reason, the setting of a minimum aquifer level for the Wairau Aquifer has been added to the Council Progressive Implementation Programme for giving effect to the NPSFM. The Council has commenced a significant investigation to gather and analyse data to better understand the relationship between the Wairau River flow and Wairau Aquifer level.

The Wairau Aquifer has reduced by 0.5 metres since records began. There is a low risk that abstraction will cause further declines in aquifer level in the absence of a minimum aquifer level. This is because the Wairau Aquifer is over-allocated on paper and no further allocation of water to meet new demand will be provided for. The effects of existing demand are reflected in the current aquifer level.

- The broader issue of the relationship between surface water and groundwater, specifically the potential for groundwater takes to influence surface water flows, was a matter that the Water Allocation Working Group spent a considerable amount of time investigating and discussing. However, the uncertainty involved with this matter did not relate necessarily to the science but to the equity of imposing surface water management to groundwater takes. The issue of equity has been assessed as part of the Section 32 report for Objective 5.6 and consequent policies.
- Minimum flows and allocation limits were only included in the WARMP for those water resources from which demand for water was anticipated. Associated with the growth in viticulture, demand has been experienced in areas for which no allocation frameworks exist. Policy B1 of the NPSFM requires the Council to set environmental flows and limits for all fresh water bodies (except ephemeral water bodies). Due to lack of historic demand for water from those resources, there is limited or no environmental data from which to set environmental flows and limits. In these circumstances Policy 5.2.14 proposes to use default minimum flows. This creates uncertainty as to the reliability of existing and new water takes.

The default minimum flows replicate the defaults included in the Proposed NES on Ecological Flows released by the Ministry for the Environment in 2008. These defaults were proposed to respond to the same issue (the lack of environmental data to set minimum flows to protect ecological values) at a national scale and are based on a considerable body of scientific work. For this reason, it is considered that the risks involved in using default minimum flows in accordance with policy 5.2.14 are acceptable.

Appendix A – Section 32 of the RMA

32 Requirements for preparing and publishing evaluation reports

- (1) An evaluation report required under this Act must—
 - (a) examine the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of this Act; and
 - (b) examine whether the provisions in the proposal are the most appropriate way to achieve the objectives by—
 - (i) identifying other reasonably practicable options for achieving the objectives; and
 - (ii) assessing the efficiency and effectiveness of the provisions in achieving the objectives; and
 - (iii) summarising the reasons for deciding on the provisions; and
 - (c) contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.
- (2) An assessment under subsection (1)(b)(ii) must—
 - (a) identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—
 - (i) economic growth that are anticipated to be provided or reduced; and
 - (ii) employment that are anticipated to be provided or reduced; and
 - (b) if practicable, quantify the benefits and costs referred to in paragraph (a); and
 - (c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.
- (3) If the proposal (an **amending proposal**) will amend a standard, statement, regulation, plan, or change that is already proposed or that already exists (an **existing proposal**), the examination under subsection (1)(b) must relate to—
 - (a) the provisions and objectives of the amending proposal; and
 - (b) the objectives of the existing proposal to the extent that those objectives—
 - (i) are relevant to the objectives of the amending proposal; and
 - (ii) would remain if the amending proposal were to take effect.
- (4) If the proposal will impose a greater prohibition or restriction on an activity to which a national environmental standard applies than the existing prohibitions or restrictions in that standard, the evaluation report must examine whether the prohibition or restriction is justified in the circumstances of each region or district in which the prohibition or restriction would have effect.
- (5) The person who must have particular regard to the evaluation report must make the report available for public inspection—
 - (a) as soon as practicable after the proposal is made (in the case of a standard or regulation); or
 - (b) at the same time as the proposal is publicly notified.

(6) In this section,—

objectives means,—

- (a) for a proposal that contains or states objectives, those objectives:
- (b) for all other proposals, the purpose of the proposal

proposal means a proposed standard, statement, regulation, plan, or change for which an evaluation report must be prepared under this Act

provisions means,—

- (a) for a proposed plan or change, the policies, rules, or other methods that implement, or give effect to, the objectives of the proposed plan or change:
- (b) for all other proposals, the policies or provisions of the proposal that implement, or give effect to, the objectives of the proposal.

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