Section 32 report:
Soil conservation

for the Proposed Natural Resources Plan for the Wellington Region

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Issues and Evaluation Report

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For more information, contact the Greater Wellington Regional Council:

Wellington
PO Box 11646

T 04 384 5708
F 04 385 6960
www.gw.govt.nz

Masterton
PO Box 41

T 06 378 2484
F 06 378 2146
www.gw.govt.nz

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www.gw.govt.nz
regionalplan@gw.govt.nz

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1. Overview and purpose

This report provides an evaluation of the appropriateness of the objectives, and an assessment of the polices and methods in the proposed Natural Resources Plan for the Wellington Region (the proposed Plan) for soil conservation as required under section 32 of the Resource Management Act 1991 (RMA).

This report should be read in conjunction with:

- Section 32 report: Introduction
- Section 32 report: Discharges to water
- Section 32 report: Discharges to land
- Section 32 report: Beds of lakes and rivers

1.1 Background

The RMA requires that the life-supporting capacity of soils is safeguarded while enabling people and communities to provide for their social, economic and social well-being. Section 30(c)(i) of the RMA has functions for regional councils to give effect to the purpose of the RMA. Regional councils can control the use of land for the purpose of soil conservation, which is defined in the RMA to mean avoiding, remedying or mitigating soil erosion and maintaining the physical, chemical and biological quality of soil.

The proposed Plan has objectives and provisions to safeguard the life-supporting capacity of soils and manage the use of land to protect the soil resource from erosion and other activities.

This section 32 report focuses on soil conservation as it is affected by accelerated erosion. Other section 32 reports show how discharges into or onto land are dealt with under the RMA.

In this section 32 report the main activities that affect soil conservation in the region are:

- Earthworks
- Vegetation clearance
- Plantation forestry harvesting

All of these activities have the potential to adversely affect soil conservation by accelerating soil erosion, and if the activity is not well managed a discharge of sediment to water.

1.2 Report structure

The structure of the report is shown below:

- Issues statements (section 2 of this report): this is a refinement of the main issues identified by the community related to soil conservation

- Regulatory context (section 3 of this report): this is an identification of the relevant national and regional legislation and policy direction

- Evaluation of the objectives (section 4 of this report): this is an evaluation of the extent to which the proposed objectives are the most appropriate way to achieve the purpose of the RMA as required by section 32(1)(a)

- Assessment of the policies and other methods (section 5 of this report): this is an assessment of the efficiency and effectiveness of the provisions as to whether they are the most appropriate way to achieve the objectives, in accordance with section 32(1)(b) and section 32(2)

2. Resource management issues

2.1 Background

Wellington Regional Council (referred to here as WRC or the Council) has been involved with soil conservation measures for over 40 years in the eastern Wairarapa hill country. This history and relationship with landowners brings a unique situation that has proved beneficial in mitigating the effects of land uses on erosion prone land. The mitigation measures of planting willows and poplars (pole planting) and advice for hill country farmers and land managers shows good environmental results on the farm scale, however the full benefits over the entire eastern Wairarapa is hard to discern.

In a report containing state and trends analysis by Sorensen (2012), he suggests that "most of the region's soil is intact and there has been a slight increase in stable and inactive land surfaces due to the revegetation of some former erosion scars. However, soil disturbance caused by land use activities increased by approximately 24,000ha across the region since 2002 with land uses activities such as farm and forest tracking, cultivation, spraying for pasture renewal and grazing pressure causing most of the disturbance. Soil conservation in the form of woody vegetation remains important for the region due to the susceptibility of erosion in the hill country. Across the region approximately 89,300ha of land requires some form of protection against erosion".

The state and trends shows that whilst some positive actions are occurring in the mitigation of soil erosion in the hill country there remains a major issue for the region in the potential loss of soil from land use activities. The direction has also been set in the Regional Policy Statement for the Wellington Region 2013 (see section 3.5.1) from controls to remain in the regional plan to mitigate erosion and assist with land management.

2.2 Issue identified for the proposed Plan

The issues developed for soil conservation were derived from information received from the effectiveness review of the regional soil plan (GWRC 2008), the state and trends monitoring report on soil quality (Sorensen 2012) and consultation on the issues undertaken as part of the regional plan consultation programme in 2010 and 2011 (Parminter 2011, GWRC 2014). Details of the consultation programme for the proposed Plan are described in the section 32 report introduction, and further detailed on the WRC website under the heading 'Regional plan review'

The following issue has been identified for soil conservation from:

2.2.1 Issue 3.3: Soil erosion

Land use management practices such as roading and tracking and earthworks for land development and forestry, have the potential to accelerate soil erosion with the resulting soil loss leading to silt and sediment entering surface water bodies and the coastal marine area.

Over 54 percent of the Wellington Region is classified as hill country making soil erosion an important regional issue. Soil erosion resulting in bare soil can be caused by natural processes and land use activities, which potentially reduces the on-site productive capability of the land. Soil erosion also has impacts on the environment if the soil enters surface waters and the coastal marine area. Recent monitoring of soil stability by WRC shows that land use activities including farm and forest tracking, cultivation, spraying for pasture renewal, and grazing pressure resulted in the most soil disturbances for 2010, in the region. Drystock farming was the largest contributor to bare soil in the farming sector, primarily owing to its prominence as the dominant land use in hill country areas.

The issue statement summarises the state of land management in the region. Soil stability remains an issue for the east Wairarapa hill country in particular. Whilst there is no immediate concern for soil stability, poor land management practices can lead to soil erosion if they are not well managed, and if poor management was extrapolated over the entire region, this would become a major issue.

3. Regulatory and policy context

3.1 National statutory requirements

3.1.1 Resource Management Act 1991

The Resource Management Act 1991 (RMA) provides the basis for the protection of soils in New Zealand. Section 5 of the RMA requires that soils are safeguarded for their life-supporting capacity, while people and communities are able to provide for their social, economic and cultural well-being.

Section 6 of the RMA requires regional plans to recognise and provide for matters of national importance. Soils are related to the natural character of a place or area and soils can be part of an outstanding feature or landscape. Soils can be important for the functioning of certain significant flora such as significant wetlands.

Section 7 of the RMA requires for the management of natural and physical resources that particular regard is made to various other matters. In relation to soils, section 7(f) – the maintenance and enhancement of the quality of the environment and section 7(g) – any finite characteristics of natural and physical resources are the most relevant. Soils are integral to primary production and life-supporting capacity. Soil erosion reduces the ability of soils to maintain production, and a reduction in soil quality from over production also reduces the life-supporting capacity.

3.1.2 Soil Conservation and Rivers Control Act 1941

The Soil Conservation and Rivers Control Act (1941) makes provision for the conservation of soil resources and for the prevention of damage by erosion, and to make better provision with respect to the protection of property from damage by floods. In order to achieve the purpose of the Act, catchment boards can be set up under the Act. These catchment boards are responsible for the activities in their catchment district. The boards have a wide range of powers to achieve the purposes and objects of this Act.

3.2 National policy statements

National policy statements are instruments issued under section 52(2) of the RMA. The national policy statements state the objectives and policies for matters of national significance. The national policy statement must be given effect to in regional plans and regional policy statements.

There are four operative policy statements in place:

- National Policy Statement on Electricity Transmission 2008
- National Policy Statement on Renewable Electricity Generation 2011
- New Zealand Coastal Policy Statement 2010
- National Policy Statement for Freshwater Management 2014

The relevant national policy statements for soil conservation are the New Zealand Coastal Policy Statement and the National Policy Statement for Freshwater Management.

3.2.1 National Policy Statement for Freshwater Management

The National Policy Statement for Freshwater Management 2014 (NPS-FM) requires regional councils to recognise the national significance of fresh water for all people in the region and Te Mana o te Wai (the mana of water).

There is a list of direct requirements for regional councils in the NPS-FM, including safeguarding fresh water's life-supporting capacity, ecosystem process, people's health, protection of the significant values of wetlands and outstanding water bodies, the efficient use of water and over-allocation of water takes and the input of contaminants and to phase out over-allocation. More importantly the policy statement requires the setting of freshwater objectives to meet community values and tangata whenua values which include ecosystem health, and human health for recreation. Regional councils have to set limits which allow freshwater objectives to be met under a specified set of water quality measures to set the objectives. The policy statement also requires measures to account for the source of contaminants.

Where soil conservation provisions relate to the NPS-FM is in the discharge of sediment or silt to surface water bodies from soil disturbance activities if not properly managed.

3.2.2 New Zealand National Coastal Policy Statement

The New Zealand National Coastal Policy Statement 2010 (NZCPS) is the only mandatory national policy statement under the RMA. The purpose of the

NZCPS is to state policies to achieve the purpose of the RMA, in order to promote the sustainable management of natural and physical resources in relation to New Zealand's coastal environment (section 56 of the RMA).

The NZCPS has objectives and policies that regional plans must give effect to for the management of the coastal marine area. In particular in relation to soil conservation, there is one policy related to discharges of contaminants, namely Policy 23 – discharge of contaminants. This policy requires that particular regard is given to managing discharges in general in relation to the receiving environment, human sewage, and the discharges from ports and other marine facilities.

Soil erosion has the potential to discharge sediment or silt into the coastal marine area. Sediment can reduce visibility in near shore environments for marine fauna, and smother habitat in low energy environments.

3.3 National environmental standards

National environmental standards (NES) are regulations issued under section 43 of the RMA and apply nationally. National environmental standards are standards for maintaining a clean, healthy environment. The government sets standards where appropriate so everyone in New Zealand has clear air to breathe, clean water to drink, and clean land to live on. The national standards prescribe technical standards, methods or other requirements for environmental matters. Each regional, city or district council must enforce the same standard. In certain circumstances, councils can impose stricter standards. The following national standards are in effect:

- National Environmental Standards for Air Quality 2004
- National Environmental Standard for Sources of Human Drinking Water 2008
- National Environmental Standards for Telecommunication Facilities 2008
- National Environmental Standards for Electricity Transmission Activities 2009
- National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health 2012

There are no specific national environmental standards for soil conservation.

3.4 National reporting databases

Soil monitoring is part of the Ministry for the Environment national monitoring programme. With regards to soil erosion the monitoring programme defines 'soil erosion risk' as all land over 21 degrees slope. Most erosion-prone land in New Zealand is pastoral land containing soils that are 'yellow-brown earths', with parent materials of weakly consolidated mudstones and sandstones. The government reports on the state of soils in New Zealand as part of the national environmental reporting framework.

To assist with the monitoring and reporting on soils are a number of well-known databases that are now supported by Landcare Research. The online 'Soils Portal' provides access to information on New Zealand's soils held by

Landcare Research. This site states that it holds data on "the National Soils Database, Fundamental Soils Layers, Digital Soil Surveys and the new S-map database". There is also explanatory information about current and historical soil-naming schemes used in New Zealand.

The New Zealand Land Resource Inventory (NZLRI) is now a spatial database containing similar information to that held in the original NZLRI worksheets. There are about 10,000 polygons (map units) within the NZLRI, each of which describes a parcel of land of five characteristics or attributes (rock, soil, slope, erosion, and vegetation). These are contained in about 400 worksheets or maps covering the whole of New Zealand. Landcare Research is upgrading the vegetation component of the NZLRI using satellite images to identify where changes have occurred during the past 20 years or so.

3.5 Regional policy

3.5.1 Regional Policy Statement for the Wellington Region

The Regional Policy Statement for the Wellington Region (RPS) was made operative in April 2013.

The RMA requires every regional council to prepare a statement providing an overview of resource management issues in the region and having policies and methods to achieve integrated management of the region's natural and physical resources.

Accelerated soil erosion was identified as a significant resource management issue for the region. The RPS suggests that some land management practices accelerate soil erosion and reduce soil quality. Soil loss can in turn lead to increased sedimentation of waterways and the coastal marine area. Soil loss reduces soil productivity and ecosystem function. Along with soil erosion is the issue of soil quality loss. Soil quality can be impeded by certain land-use practices such as over-cultivation and compaction. These activities reduce soil health and the productive capability of the soil resource.

Policy 15 (plan requiring) and Policy 41 (plan consideration) directs regional and district plans to include policies, rules and methods to control earthworks and vegetation to minimise erosion and silt and sediment runoff into water, or onto land that may enter water, so that the aquatic ecosystem is safeguarded. The policy requires city and district councils and the regional council to work together to reduce sediment and this could be achieved through a protocol by Method 31. There are two other soil conservation-related non-regulatory policies. Policy 68 requires that soil erosion is minimised by encouraging sustainable land management practices through Method 29 (whole of catchment approach), Method 15 (information about sustainable land management practices), and Method 55 (assist landowners to protect erosion prone land). Policy 69 requires the regional council to retain a healthy functioning soil ecosystem by promoting and encouraging sustainable agricultural practices that do not cause soil compaction, soil contamination, or loss of minerals or nutrients.

3.6 Operative regional plans

3.6.1 Regional soil plan

The Regional Soil Plan for the Wellington Region (Soil Plan) manages soil disturbances and vegetation clearances on erosion-prone land. These two activities have the potential to cause accelerated erosion. The Soil Plan has provisions based on slopes that are triggered when consent is required for a particular activity. The Soil Plan regulates roading and tracking, large soil disturbances on erosion-prone land and vegetation clearance associated with plantation forestry.

3.6.2 Regional Freshwater Plan

The Regional Freshwater Plan for the Wellington Region (Freshwater Plan) controls activities in the beds of lakes and rivers, discharges into water and structures and other activities in water bodies. In 2003, a plan change was made to regulate large-scale earthworks (greater than 0.3ha) where there is a discharge of sediment to a water body. This plan change was made to manage the effects of earthworks from subdivisions in lowland catchments such as Porirua catchment.

3.6.3 Effectiveness reports on regional plans

The Plan effectiveness monitoring report: Regional soil plan (GWRC 2008) shows that for the most part the provisions have been met with some success from land managers and landowners as is evident from the take-up of sustainable practices and improvements to eroded land.

The Regional Freshwater Plan Evaluation Report (GWRC 2006) suggested that the Freshwater Plan has been effective in managing freshwater activities in the region.

4. Appropriateness of the proposed objectives

The next stage in the section 32 analysis is to evaluate the objectives for the proposed Plan with regards to soil conservation. The objectives must give effect to the RPS and be evaluated against the purposes of the RMA.

The proposed objectives for soil conservation in the proposed Plan are described in section 4.1. The objectives are evaluated according to section 32(1)(a) of the RMA and the analysis is summarised in the Appendix, Table A1.

Section 32(1)(a) requires that the evaluation must examine the extent to which the objectives of the proposal are the most appropriate way to achieve the purpose of the RMA.

The appropriateness test applied consists of four standard criteria: relevance, usefulness, reasonableness and achievability. These criteria can be summarised as follows:

- *Relevance* – is the objective related to addressing a resource management issues? Will it achieve one or more aspects of the purpose and principles of the RMA?

- *Usefulness* – will the objective guide decision-making? Does it meet sound principles for writing objectives?
- *Reasonableness* – what is the extent of the regulatory impact imposed on individuals, businesses or the wider community?
- *Achievability* – can the objective be achieved with tools and resources available, or likely to be available, to the local authority?

The objectives in the Soil Plan have been analysed against the appropriateness criteria to provide guidance as to what degree the objectives required amendment (if any) to achieve the purpose of the RMA, and give effect to the relevant statutory documents. In response to this assessment, some amendments have been proposed.

A brief description of each of the proposed objectives for the proposed Plan is provided below.

4.1 Proposed objective

Objective O42: *Soils are healthy and productive, and accelerated soil erosion is reduced.*

This objective gives effect to the RMA and RPS. The objective is similar to the RPS objective and existing objectives in the Soil Plan. The objective is useful as the life-supporting capacity of soils is healthy and productive and accelerated soil erosion is reduced. This objective is a long-term aim and achievable over the life of the proposed Plan. Soil health is a reasonable objective as to ensure soils remain healthy means their productive capabilities are not reduced. The reduced threat of accelerated soil erosion is a reasonable aim for the WRC and landowners where this is an issue in the region.

The assessment in the Appendix, Table A1 and the summary above shows that the proposed objective meets the criteria for objective evaluation.

4.1.1 Relationship to other objectives

Another objective related to the soil conservation objective is:

Objective O47: *The amount of sediment-laden runoff entering water is reduced.*

This objective gives effect to the RMA (section 15 – discharges), and the RPS – Objective 29 and Policies 15 and 41. The objective relates to other objectives in the proposed Plan (discussed in other section 32 reports) including Objectives O25 (ecosystem health and mahinga kai), O44 (land use), and O48 (discharges of stormwater). This objective is useful as sediment-laden runoff can occur from soil disturbances in some cases if the activity is not well managed. The discharge needs to be minimised through good management practices. Sediment control techniques are widely used and available to land managers. The objective is achievable in situations where a potential discharge is recognised and controls are in place. Improvements to water quality are applied through central government policy through the NPS-FM, RPS and other objectives in the proposed Plan. It is a reasonable objective for the

proposed Plan that activities which can cause a discharge of sediment to surface water bodies are controlled and managed appropriately.

5. Options for achieving the objectives

Section 32(1)(b)(i) of the RMA requires an evaluation to identify practicable options for achieving the proposed objective as outline in section 4. The following options have been identified to achieve the objective for soil conservation:

- Maintain the status quo (no changes to the Soil Plan or the Freshwater Plan for soil erosion and discharges from soil disturbance activities)
- Non-regulatory approaches (partnerships with district councils, voluntary guidelines and guidance notes)
- Amendments to the Soil Plan and Freshwater Plan for soil erosion, soil quality and discharges of sediment integrated into the proposed Plan

Of the options identified only the amendments to the Soil Plan and Freshwater Plan are considered appropriate to meet the proposed objective in the proposed Plan, summarised in the Appendix, Table A2. The proposed amendments to the Soil Plan and Freshwater Plan to become part of the proposed Plan are straightforward and efficient to implement, and they will:

- Ensure consistency with the implementation of the RPS for soil conservation policies and methods
- Are beneficial and cost effective as they take advantage of existing WRC management structures for soil erosion
- The amendments are a revised and updated set of controls to reduce soil erosion and protect the environment

5.1 Maintaining the status quo

The status quo is the existing Soil Plan and Freshwater Plan that manages soil erosion and discharges of silt or sediment off-site. As discussed above the Soil Plan and the Freshwater Plan do not give effect to the RPS. Also, because the Freshwater Plan is not linked to the RPS this can increase the ineffectiveness and inefficiencies for the management of soil and sediment discharges in the region. This lack of integration creates barriers as landowners must comply with two unrelated sets of regulations, whereas in the proposed Plan there is better integration. Maintaining the status quo is not considered an appropriate option for achieving the objective for soil conservation in the proposed Plan.

5.2 Non-regulatory approaches

In this option the objectives are to be met solely by non-regulatory approaches. This option could include measures such as:

- Issuing best practice guidelines on appropriate levels of management for soil erosion and improving soil quality
- Partnership models to improve communication and engagement between land developers, landowners, district plans on the management of soils
- Issuing better guidance to land development industries to prevent the accelerated erosion in the first instance and promote methods of control

This option would keep regulatory complexity to a minimum and allow a greater flexibility of local decision in the way soil erosion is managed and reductions in soil quality can be minimised. This option would not guarantee a significant improvement in the status quo or the proposed option. Without regulatory compulsion for large-scale earthworks or vegetation clearance on erosion-prone land there is no guarantee that landowners or land managers would work with local councils or the community to reduce the worst aspects of these activities on the environment. There is a high risk that a worse situation than the status quo would prevail through a non-regulatory approach and the objectives would be unlikely to be achieved.

5.3 Amendments to the Soil Plan (the proposed Plan)

This is the proposed option which is an amended Soil Plan that is integrated with other activities managed by the proposed Plan (see Table 1).

The proposed option would give effect to new and existing statutes, be updated with new information on soil science, and includes a non-regulatory approach (through the RPS) to assist landowners and land managers with soil erosion and soil quality management. This approach is the best fit to meet the proposed objectives of the proposed Plan.

This approach has a better balance between regulatory (and non-regulatory through the RPS) options to meet the objectives than the other approaches. The regulatory options mean that large-scale earthworks and vegetation clearance (including plantation forestry harvesting) is effectively assessed, monitored and managed appropriately providing landowners and the community with the confidence that soil erosion is kept in check and discharges from land uses are well managed by the proposed Plan.

Table 1: Amendments for the proposed option

Objectives:	O42: Soils are healthy and productive, and accelerated soil erosion is reduced Related objective: O47: The amount of sediment-laden runoff entering water is reduced.
Policies:	Policy P4: Minimising adverse effects Policy P97: Managing sediment discharges Policy P98: Accelerated soil erosion Related policies: Policy P7: Uses of land and water Policy P8: Beneficial activities Policy P31: Aquatic ecosystem health and mahinga kai Policy P67: Minimising effects of discharges
Rules:	Rule R99: Earthworks – permitted activity Rule R100: Vegetation clearance on erosion prone land – permitted activity Rule R101: Earthworks and vegetation clearance not permitted – discretionary activity Rule R102: Plantation forestry harvesting on erosion prone land – permitted activity Rule R103: Plantation forestry not permitted – controlled activity
Schedule:	O: Plantation forestry harvest plan

6. Efficiency and effectiveness of the proposed provisions

Section 32(1)(b)(ii) of the RMA requires that he benefits and costs of the environmental, economic, social and cultural effects that are anticipated from the implementation of the proposed provisions for earthworks, vegetation clearance and plantation forestry harvesting be assessed for effectiveness and efficiency.

The following is an assessment of the effectiveness and efficiency of the proposed provisions. The assessment is based on information provided through the draft natural resources regional plan submission process, industry stakeholders, consultants, the national land managers working group for soil conservation, and the working group for the draft national environmental standard for plantation forestry, and other information obtained as part of the section 32 evaluation.

In summary (see the Appendix, Table A2), the assessment has identified that the proposed provisions for earthworks, vegetation clearance, and plantation forestry harvesting are the most effective and efficient for achieving the objectives of the proposed Plan. The balance of costs and benefits shows that while there are costs in implementing the proposals – in particular the potential requirement for landowners to gain a land use consent if their land use activity breaches the thresholds in the proposed provisions, these costs are outweighed by the benefits to the environment and social benefits of having soils protected from erosion and poor land management activities.

6.1 Effectiveness

For the purposes of section 32, effectiveness is the ability of a provision to meet the desired outcome or result. Below is an assessment of the proposed provisions that should be read in conjunction with Table A2 in the Appendix. The assessment evaluates the proposed provisions for earthworks, vegetation clearance and plantation forestry harvesting. The evaluation identified that the proposed provisions will be effective in achieving the objectives of the proposed Plan and more effective than the status quo. The proposed provisions will widen the scope for the management of earthworks and vegetation clearance in the region, and address more effectively discharges to the environment.

Earthworks

Proposed Policy P98 provides a clear policy direction to reduce accelerated soil erosion. The policy requires the use of good management practices to minimise the risk of accelerated soil erosion, control silt and sediment runoff and provide stabilisation of disturbed sites. Good management practices have reached a level of detail and understanding in the earthworks and forestry industries where sediment issues can be effectively dealt with and the effects on the environment mitigated. Proposed Policy P98 requires that ‘stabilisation’ for earthworks is part of good management practice. This means protecting the soil surface from the effects of heavy rainfall that can cause scouring and erosion, and dust. Stabilisation can be made effective with over-sowing of grass or other erosion suppression products. The costs for implementing this policy are reasonable as good management practices are not capital intensive and only

require simple techniques to be employed to mitigate the effects of erosion and sediment control.

Proposed Policy P97 regards the management of sediment from activities by using a source control approach. In short this means that during the activity, such as earthworks, that appropriate methods are employed on site to limit or reduce the amount of sediment that may run off site. There are well known and documented methods to manage sediment on site including bunding, cut-off drains, sediments and other measures to reduce runoff during rainfall events. This policy applies to all the proposed land use rules of earthworks, vegetation clearance and plantation forestry harvesting where there is a high likelihood of sediment discharged to a waterway from runoff.

Proposed Policy P4 provides guidance to proposed Policy P97 and proposed Policy 98 which requires that adverse effects be minimised. That is, adverse effects are to be reduced to the smallest amount practicable and include consideration of alternative locations, timing of the activity, the use of good management practice and ensuring the scale of the activity is as small as practicable. It is intended that Policy P4 be used to guide a resource consent assessment of environmental effects for proposed Policy P97 and proposed Policy P98.

Other related policies to earthworks, vegetation and plantation forestry harvesting are proposed Policy P7: Uses of land and water, Policy P8: Beneficial activities, and Policy P67. These policies recognise that certain activities are beneficial to the region and provide social and economic well-being to communities and individuals. Activities such as earthworks and plantation forestry harvesting whilst initially they can have adverse effects on the environment, overall the activities are beneficial by providing employment, and future development through additional housing or in newly planted forests. The proposed Plan recognises that some of these benefits can have ongoing effects on the environment such as through stormwater management. However, the proposed Plan has provisions for the management of catchments through proposed Policy P1.

Another policy related to earthworks, vegetation clearance and plantation forestry harvesting is proposed Policy P31: Aquatic ecosystem health and mahinga kai. This policy seeks to minimise the effects on aquatic ecosystem health from discharges such as sediment releases from earthworks or vegetation clearance. The policy requires that measures be taken during the activity to minimise the effects on aquatic life and avoid significant adverse effects at the time of breeding, spawning, and dispersal or migration of aquatic species.

Proposed Rule R99 – earthworks, is the main rule to control earthworks in the region and it affects earthworks on all slopes. Earthworks are defined in the proposed Plan to mean disturbance of a land surface from the time soil is first disturbed on a site until the site is stabilised. Earthworks includes blading, contouring, ripping, moving, removing, placing or replacing soil or earth by excavation, cutting or filling operations or by root raking. Earthworks does not include cultivation of soils for crops or pasture, thrusting, boring, trenching or

plough associated with: cable- or pipe-laying and maintenance; construction repair and maintenance of pipelines, electricity lines, telecommunication structures or lines; repair and maintenance of radio communication structures; repair and maintenance of existing roads and tracks; maintenance of orchards and shelterbelts; construction, repair or maintenance of fence lines or firebreaks; domestic gardening; and repair, sealing or resealing of a road, footpath or driveway.

Proposed Rule R99 is an adaptation of Rule 2 in the Freshwater Plan. The main condition of proposed Rule R99 is an area threshold, where earthworks greater than the area require a resource consent. The area threshold is 0.3ha which has not changed from Rule 2 in the Freshwater Plan. Earthworks less than 0.3ha are permitted provided the conditions of the proposed rule are met. This size condition is the most effective to meet the objectives of the proposed Plan and compatible with other earthworks provisions in district plans.

Proposed Rule R99 condition (a) seeks to manage earthworks on sites where soil or debris may enter a surface water body. As discussed above, if earthworks are not well managed there is the likelihood that soil or sediment may enter a water body. Proposed Rule R99 condition (b) also requires that soil is well managed and that the works will not lead to instability or subsidence beyond the boundary of the site. These conditions will be effective in reducing accelerated soil erosion off-site.

Proposed Rule R99 condition (d) requires that work sites are stabilised after six months. Sites on steep land have the potential for increased runoff of sediment and silt to waterways. This condition requires that operators place good management controls on sites to mitigate runoff, scouring, and discharges to water bodies. There are a number of techniques and methods for stabilisation of land the most common is gaining grass strike in the first six months. If grass strike is not possible, then other techniques and methods are effective.

The discharge from earthworks must comply with the discharge condition (e) which is from section 70 of the RMA.

If earthworks are over 0.3ha on a property or site then a discretionary consent is required. WRC considers that to mitigate the effects of earthworks this level of consent is appropriate to meet the objective for soil conservation and other related objectives of the proposed Plan.

Vegetation clearance

Vegetation clearance is defined in the proposed Plan as the clearance of woody vegetation (exotic or native) by mechanical means or chemical, including felling, spraying of vegetation by hand or aerial means, hand clearance and the burning of vegetation.

Proposed Policies P7, P8, P31, P97 and P98 all apply to vegetation clearance. The assessment of these policies is described above with reference to earthworks. These policies require the use of good management practices to manage vegetation clearance to minimise soil erosion and discharges to

waterways. Earthworks and vegetation clearance have similar effects on the environment.

Proposed Rule R100 controls vegetation clearance on erosion-prone land. Erosion-prone land is steep with a higher likelihood of soil erosion if woody vegetation is removed. Conversely, on flat land soil erosion from vegetation removal is likely to be minimal if at all, however, there could be runoff from the site after heavy rainfall.

In the Soil Plan, erosion prone land is defined as land greater than 23 degrees slope (for the eastern Wairarapa hill country and coastal hill country in the Kapiti Coast) and land greater than 28 degrees slope (for the western Wellington ranges). Having two slope triggers for erosion-prone land has proved confusing with land users and land developers since the Soil Plan was made operative. In the proposed Plan it is proposed to have only one slope trigger for erosion-prone land, which is land greater than 20 degrees slope. This figure is based on slope information from the NZLRI (see Table 2 from the NZLRI). This is deemed a more effective slope figure for the region, rather than the two slope figures used in the Soil Plan.

Table 2: Slope in the NZLRI

Code	Description	Description	Landscape
A	0-3°	Flat to gently undulating	Flats and terraces
B	4-7°	Undulating	Terraces, fans
C	8-15°	Rolling	Down lands, fans
D	16-20°	Strongly rolling	Down lands, hills
E	21-25°	Moderately steep	Hill country
F	26-35°	Steep	Hilly and steep land
G	>35°	Steep	Steep lands, cliffs

Proposed Rule R100 restricts vegetation clearance to less than two contiguous hectares on erosion-prone land. This condition is consistent with the size condition in the plantation forestry harvesting rule for harvesting on erosion prone land.

In proposed Rule R100 conditions (a) and (b) apply to discharges and activities near waterways.

Proposed Rule R100 requires that vegetation clearance greater than two contiguous hectares on erosion-prone land is a discretionary resource consent. This activity class is appropriate for this type of activity to manage the effects on the environment and meet the proposed Objective O42.

Plantation forestry harvesting

Plantation forestry harvesting is defined as an area of forest whether exotic or indigenous species which is intended to be, or has been, with the intent to harvest for commercial purposes. There are exemptions to this definition and

they are: if the area is less than 2ha in extent, if the trees are planted primarily for landscape or animal shelter, planted primarily for soil conservation, including riparian strips, planted for scientific purposes, or trees planted as part of a covenant.

Proposed Policy P98 applies to plantation forestry harvesting in the same way as it does for earthworks and vegetation clearance. The basic premise of the policy is the management of plantation forestry harvesting to minimise soil erosion and discharges to waterways. Earthworks and vegetation clearance have similar effects on the environment as plantation forestry harvesting. The other related policies described above for earthworks apply equally to plantation forestry harvesting. In particular, proposed Policy P31 requires that the adverse effects of the activity are minimised around the time of aquatic species spawning, breeding and dispersal of species.

Plantation forestry harvesting is managed by proposed Rule R102, including Schedule O – Plantation Forestry Harvest Plan. Proposed Rule R102 requires a harvest plan to be submitted 20 working days before the harvest. This is to provide WRC with the necessary information about the harvest, its location and type of harvest, and the necessary controls in place to meet objectives of the proposed Plan. The largest effect from this activity is potential sediment release into water bodies from harvesting, roading and tracking and general earthworks. Proposed Rule R102 conditions (b) and (c) will assist with ensuring that forestry activities take particular caution around waterways to minimise the release of sediment.

Proposed Rule R102 only applies to harvest operations over 2ha on erosion-prone land. Harvesting of blocks or lots less than 2ha are not covered by proposed Rule R102. However proposed Rule R100 – vegetation clearance on erosion-prone land can still apply. Proposed Rule R100 retains control over the activity to mitigate any potential effects from soil erosion or discharge to a waterway.

Plantation forestry harvesting is regulated on erosion-prone land (land with slopes greater than 20 degrees). The reasons for including plantation forestry harvesting on erosion-prone land are identical for vegetation clearance and that is that the effects of soil erosion and discharges to water bodies are heightened when the land slope increases. This slope condition is an effective way to help meet Objective O47 in the proposed Plan.

Slash management is a key area of harvesting and potentially can cause localised flooding and scour of water bodies. Slash can be removed from waterways if there is a likelihood of flooding or diversion of the waterway. There needs to be a level of care with the removal of slash as removal with the use of heavy machinery is not likely to meet the intent of proposed Policy P97.

If the conditions of Rule R102 are not met then harvesting is a controlled activity. This level of consent is appropriate for the type of activity and provides a level of economic benefit that the trees can be harvested once planted.

Other proposed rules that apply to plantation forestry harvesting are the proposed rules for the beds of lakes and rivers. These proposed rules are for activities in the beds of rivers and lakes and are a core function of regional councils through section 13 of the RMA, and the objectives of the proposed Plan for water quality. These proposed rules apply to meet the objectives of the proposed Plan.

6.1.1 Summary of effectiveness

For the purposes of section 32, effectiveness is the ability of a provision to meet the desired outcome or result. To assess effectiveness, Table A2 evaluates the proposed provisions for earthworks, vegetation clearance and plantation forestry harvesting against the objectives.

The evaluation identified that the proposed provisions will be effective in achieving the objective of the proposed Plan and will be more effective than the status quo. The proposed provisions will widen the scope for the management of earthworks, vegetation clearance and plantation forestry harvesting in the region, and address more effectively any discharges of sediment to the environment.

6.2 Efficiency

Section 32(1)(b)(ii) requires an assessment of the efficiency of the proposal provisions. The assessment must identify the benefits and costs of the environmental, economic, social and cultural effects that are anticipated from the implementation of the proposed provisions, including opportunities for (i) economic growth and (ii) employment that are anticipated to be provided or reduced. If practicable, the benefits and costs must be quantified. However, the benefits and costs can also be qualitative where quantification is not possible.

The efficiency of the proposed provisions has been assessed by balancing the costs and benefits of the proposed provisions. Information about the proposed provisions has been gathered through consultation with industry representatives, submissions on the draft regional plan, examination of council costs, and discussions with other regional council representatives on national working group bodies. At this stage the costs and benefits have not been monetised for the following reasons:

- The costs for this type of activity tend to be on a case-by-case basis and difficult to quantify per site or per property
- The costs of the effects on the environment are difficult to discern
- With limited regulatory involvement by the Council, costs have not been examined in detail
- It is difficult to obtain information about vegetation clearance and plantation forestry harvesting activities from landowners

The evaluation will address these limitations from a qualitative basis to meet the proposed objectives of the proposed Plan. Appendix Table A2 summarises the nominal costs and benefits of the proposal.

6.2.1 Economic effects

There has been no formal economic assessment undertaken for this proposal. There would be increased economic costs for WRC in the processing of resource consents for large-scale earthworks, vegetation clearance and plantation forestry. The proposed provisions are not a major departure for the operative rules around these activities. The costs then will remain similar for WRC and consent processing. A cost increase may be felt by the Council in the monitoring of permitted activity conditions for plantation forestry if there is widespread poor compliance by the industry. This is not expected.

Costs for plantation forestry harvesting are scaled to the level of harvest activity. The cost to the industry will rise with complicated harvest operations on steep sites. However, these costs are known at the time of writing, and not unexpected.

Costs to land developers for earthworks would be the same as currently, as the rule conditions are not changing. Also today the cost of sediment control for land development is not unaccepted and part of the overall cost of development of land.

There is a nominal benefit to the forest industry with no formal consent process required for small-scale harvest operations where the number of stream crossings is low. This would benefit small-scale forest owners, where removal meets rule and schedule conditions. The benefit of small-scale earthworks and vegetation clearance is provided for so long as permitted activity conditions are met. These are not outside usual good management practice for these activities.

6.2.2 Environmental effects

The effects on the environment from earthworks, vegetation clearance and plantation forestry harvesting are:

- Accelerated soil erosion
- Loss of topsoil
- Discharge of silt or sediment to a water body
- Discharge of silt or sediment to low-energy receiving environments and the coastal marine area

These effects would remain over the long term if there were no intervention by the proposed Plan, and the effects on the soil resource are at odds with the purposes of the RMA, to protect the life-supporting capacity of soils. The discharge of silt or sediment from land-use activities to water bodies affects invertebrate life, river and stream ecosystems.

To ‘make’ a soil takes a long period of time. To lose soil from erosion is then a major cost to the region in terms of future productivity, but also by not providing for the life-supporting capacity of all other life that depends on soils. To remake a soil is difficult and time consuming. In most cases soil erosion means a loss of value for multiple generations.

6.2.3 Social effects

There are social costs from soil erosion and discharges of sediment to waterways. The social costs are in not being able to use the land for another purpose that may be more productive. Furthermore, if there are ongoing discharges to surface water, the social effects may lead to restrictions in recreational benefits and people's enjoyment.

6.2.4 Cultural effects

The cultural effects of the proposals are considered to be limited. However the discharge of sediment to waterways affects cultural values of mana whenua, especially if the sediment affects a site of significant or mahinga kai. These effects are described in more detail in the Section 32 report: Māori values, and in the Section 32 report: Discharges to water.

7. Uncertain or insufficient information

Section 32(2)(c) of the RMA requires an evaluation to take account of the risk of acting or not acting if there is uncertain or insufficient information about the provisions.

7.1 Risks of not acting

The review of the Soil Plan (see section 2.6.3) showed there are shortcomings in the way soil erosion activities are managed in the region. However, the review of the Freshwater Plan appears to be working effectively to manage silt and sediment from earthworks sites. Overall, there are shortcomings continuing with the RPS, Soil Plan and the Freshwater Plan as separate plans they are not integrated and cannot effectively manage earthworks across the region. There are reasonable risks with continuing with the status quo, and they are:

- A poor understanding by landowners when they require consent for their activity
- No certainty around whether a consent is required for the discharge from earthworks consented under the Soil Plan
- Poor alignment between Soil Plan and the Freshwater Plan around the type of activity and consenting basis
- Plantation forestry harvesting as an activity is not clearly defined in the Soil Plan compared with vegetation clearance
- Effects from vegetation clearance are not appropriately addressed in all cases with the existing rule structure

The risks cannot be mitigated by continuing with the status quo.

7.2 Risks of acting

The risks of acting as identified in the previous sections are:

- The potential for new land-use activities to require consent for earthworks or vegetation clearance
- Increased awareness of soil erosion and soil quality activities would in turn increase responsibility for activities

- Higher level of public enquiry of earthwork-related activities by WRC
- Increased regulation workload

The risks can be mitigated by placing more resources into the management of earthworks and plantation forestry, and an increased level of information, publication and awareness about earthworks in the region around where landowners need to take responsibility.

7.3 Conclusion on risk

The option assessed has identified that while there are other options for achieving the policy objectives, the proposed amendments to the existing regional plan are the most appropriate to achieve the policy objectives. While there are some risks in the proposal, these can be mitigated through provisions in the proposed Plan and public consultation on the proposal.

8. Summary of evaluation

Section 32(1)(b)(iii) requires that the evaluation has been undertaken to test the efficiency, effectiveness and risk for the proposed amendments for earthworks, vegetation clearance and plantation forestry harvesting. The proposed amendments have been assessed against the status quo of remaining with the Soil Plan and Freshwater Plan unchanged.

The evaluation has found that the proposed amendments would ensure that the objectives of the proposed Plan could be fully achieved to protect the soil resource and reduce discharges of sediment and silt to water bodies. Further, the current amendments are compatible with other policy objectives and provisions in the proposed Plan.

The preliminary cost-benefit analysis suggests that, on balance, the proposed amendments would prove the most cost effective for achieving the objectives. There are some risks in this approach; however these risks relate mainly to the level of resources placed into the management of earthworks, vegetation clearance and plantation forestry harvesting in the region.

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Appendix

Table A1: Appropriateness of the objectives

Objective: O42	*Soils are healthy and productive, and accelerated soil erosion is reduced.*
Relevance	
Directly related to resource management issue?	Related to Issue 3.3.
Will achieve one or more aspects of the purpose and principles of the RMA?	Directly related to section 5 of the RMA, specifically section 5(2)(b).
Relevant to Māori environmental issues? (sections 6(e),6(g),7(a),8)	Yes.
Relevant to statutory functions or to give effect to another plan or policy (i.e. NPS-FM, RPS)?	Proposed Objective O42 gives effect to Policies 15, 41, 68 and 69 of the RPS.
Usefulness	
Will effectively guide decision-making?	Yes, the objective will assist decisions-makers by highlighting the prominence of soils in various land-use decisions that can reduce the soil's life-supporting capacity.
Meets sound principles for writing objectives? (specific; state what is to be achieved where and when; relate to the issue; able to be assessed)	The objective is a clear and complete sentence related to the issues above. This issue is not time bound as it will deliver benefits over time.
Consistent with other objectives?	Yes, the objectives have been assessed, and work together to achieve sustainable management of natural resources in the Wellington Region.
Achievability	
Will it be clear when the objective has been achieved in the future? Is the objective measureable and how would its achievement be measured?	The objective is long term and will take time more than one planning cycle to be met. Wellington Regional Council undertakes monitoring of soil erosion, soil quality and surface water bodies that will show if there are long-term trends in the sediment levels in water ways, and has also taken surveys for the effectiveness of pole planting in the eastern Wairarapa hill country.
Is it expected that the objective will be achieved within the life of the proposed Plan or is it an aspirational objective that will be achieved some time in the future?	This objective will be achieved over a longer timeframe than the life of the proposed Plan.

Does the Council have the functions, powers, and policy tools to ensure that they can be achieved? Can you describe them?	Yes, relevant roles and powers are section 30(1)(c) of the RMA. The objective will be achieved by the policies and rules of the proposed Plan described in this report.
What other parties can the Council realistically expect to influence to contribute to this outcome?	Wellington Regional Council works with: • Landowners • Territorial authorities • Government agencies to achieve this objective.
What risks have been identified in respect of outcomes?	The risk to the soil resource will be reduced through the achievement of this objective.
Reasonableness	
Does the objective seek an outcome that would have greater benefits environmentally, economically or socially compared with the costs necessary to achieve it?	The outcome of retaining soil quality through reduction in soil erosion would increase the benefits to landowners and the region as a whole compared with long term soil erosion with no intervention from councils. The costs of not implementing this objective may be large where future production is greatly reduce leading to landowners not able to be productive with their holdings.
Who is likely to be most affected by achieving the objective and what are the implications for them?	People most likely to be affected are land developers, landowners undertaking activities on the land that would affect the soil's characteristics. The implications for these groups are to improve their practices to good practice standards to make sure the life-supporting capacity of the soil is not lost.
Existing objectives	
Are the existing objectives (include a list of objectives or relevant objective to the one being compared) still relevant or useful?	This objective is consistent with the objectives of the Soil Plan. This is because of the direction from the RMA and the RPS requiring plans to safeguard this resource.

Objective: O47	*The amount of sediment-laden runoff entering water is reduced.*
Relevance	
Directly related to resource management issue?	Partially related to Issues 3.3.
Will achieve one or more aspects of the purpose and principles of the RMA?	Directly related to section 5 of the RMA, specifically section 5(2)(b).

Relevant to Māori environmental issues? (sections 6(e),6(g),7(a),8)	Yes.
Relevant to statutory functions or to give effect to another plan or policy (i.e. NPS-FM, RPS)?	Proposed Objective O47 gives effect to Policies 15, and 41 of the RPS.
Usefulness	
Will effectively guide decision-making?	Yes, the objective will assist decisions-makers by highlighting the prominence of soils in various land use decisions that can reduce the soil's life-supporting capacity. The objective is similar to the RPS Objective 30 that directs city and district councils to take into account the unique characteristics of soils in decision-making.
Meets sound principles for writing objectives? (specific; state what is to be achieved where and when; relate to the issue; able to be assessed)	The objective is a clear and complete sentence related to the issues above. This issue is not time bound as it will deliver benefits over time.
Consistent with other objectives?	Yes, the objectives have been assessed, and work together to achieve sustainable management of natural resources in the Wellington Region.
Achievability	
Will it be clear when the objective has been achieved in the future? Is the objective measureable and how would its achievement be measured?	Yes, the achievement of this objective will become clear in the future through: • State of the environment monitoring • Specific soils related monitoring • Water quality monitoring
Is it expected that the objective will be achieved within the life of the proposed Plan or is it an aspirational objective that will be achieved some time in the future?	This objective will be achieved over a longer timeframe than the life of the proposed Plan.
Does the Council have the functions, powers, and policy tools to ensure that they can be achieved? Can you describe them?	Yes, relevant roles and powers are sections 15 and 30(1)(c) of the RMA. The objective will be achieved by the policies and rules of the proposed Plan described in this report.

What other parties can the Council realistically expect to influence to contribute to this outcome?	Wellington Regional Council works with: • Landowners • Land developers • Territorial authorities • Government agencies to achieve this objective.
What risks have been identified in respect of outcomes?	The risk to the soil resource will be reduced through the achievement of this objective. Water quality objectives will be further met
Reasonableness	
Does the objective seek an outcome that would have greater benefits environmentally, economically or socially compared with the costs necessary to achieve it?	Yes, the objective will have a greater overall environmental benefit than the costs necessary to achieve it. Discharges of sediment can be managed and controlled. This is a reasonable requirement for land management industries.
Who is likely to be most affected by achieving the objective and what are the implications for them?	People most likely to be affected are land developers, and landowners undertaking activities on the land. The implications for these groups are to improve their practices to good practice standards to make sure the life-supporting capacity of the soil is not lost and discharges of sediment are minimised.
Existing objectives	
Are the existing objectives still relevant or useful?	Existing objectives in the Soil Plan are similar in purpose to the proposed objective. However, the existing objectives are not integrated into the proposed Plan where objectives are integrated to meet national policy statement requirements. This change to the status quo is a more appropriate way to achieve the purpose of the RMA.

Table A2: Assessment of the benefits and costs

		Status quo (no change from the operative Soil Plan)	Non-regulatory approach	Proposed Plan (Preferred option)
Costs (of the environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions)	Council	There are costs in the administration of earthworks consent where they discharge into water. There are costs in providing advice, education and enforcement of rules and compliance with consent conditions. Wellington Regional Council has organised a programme of work called 'muddy Waters' over the past decade to inform industry of regulatory and best practice requirements.	Costs to the Council in forming partnerships and relationships with industry, in staff time and the resources of the Council. Other councils in providing information, technical information and sourcing experts to assist with the controls on land development to meet the objectives.	Costs for the Council in processing consents and in providing information and other resources to meet the objectives. This approach whilst expensive overall will deliver the proposed objectives more so that the other two options.
	Resource user (consent applicant or permitted use)	Costs to comply with operative rules and industry best practice. If projects are long term there are compliance costs and enforcement costs.	Less cost in applications for lodging resource consent, monitoring and compliance. There would be additional costs in time through attending workshops and seminars as an alternative to application for consents.	Costs for the user in terms of the status quo and the non-regulatory approach. However, this cost is rationalised across the proposed Plan as consents for activities will be integrated. This amended option should be cost effective in achieving the objectives.
	Community costs (environmental, social, economic, cultural)	Environmental costs are in the loss of soil permanently from the region, and discharges to water reducing water quality and ecosystem health. There are social and cultural costs to the community from poor water quality in their locality and receiving environments such as coastal water.	Additional costs to the community in making time and resources to be involved in earthwork and forestry activities to meet the objectives. This may not be favourable with all the community as many would not be able to spare the time.	Not a considerable change from the status quo, as the community will only be involved for a notified consent.

		Status quo (no change from the operative Soil Plan)	Non-regulatory approach	Proposed Plan (Preferred option)
Benefits (of the environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions)	Council	The benefit to the Council is as coordinator of major earthworks projects in the region, and providing consistency in best practice for industry.	The reduced consent time can be used to maintain better relationships with landowners and land developers this can have long-term benefits for the Council as differences can be resolved collectively.	Benefits are in the way consents will be managed by the WRC for earthworks and vegetation clearance. There is a clear separation between vegetation clearance activities and plantation forestry harvesting. This will improve the interpretation and management of these activities.
	Resource user (consent applicant or permitted use)	Benefits are in adherence to industry best practice which increases the opportunity for new work and development. Greater acceptance and good will towards compliant firms.	There are benefits to not having to comply with regulations from the proposed Plan. The user however would still need to comply with all good management practice methods and techniques to meet the objective of the proposed Plan.	Similar benefits to the users as apply to the WRC. The user is able to clearly define their activity and know the policies that apply to mitigate the adverse effects. In many cases the activity will be permitted as the area triggers will not be met. This means that good management practices will prevail to meet the objectives of the proposed Plan.
	Community benefits (environmental, social, economic, cultural)	Community has potentially high water quality and a soil resource that remain intact longer for future developments. There are cultural benefits to high water quality and providing for mahinga kai.	The benefits of this approach are knowledge that industry and individuals have the necessary information and techniques to mitigate the effects on the environment. This is an empowering place for users where the responsibility to protect the environment is theirs and not directly related to WRC. This may in time lead to greater compliance through good practice.	The community benefits from the new provisions will be improved water quality for local streams and rivers, knowledge that good management practices and WRC controls are in place to ensure the environment is protected and the benefits of this protection flow through to the community.

		Status quo (no change from the operative Soil Plan)	Non-regulatory approach	Proposed Plan (Preferred option)
Efficiency (costs vs benefits)		The operative provisions whilst not entirely inefficient do have situations where resource users where not sure of their responsibility or the operative rule was not effective is capturing the effect.	There is some efficiency in this option as the costs of regulation are removed however those costs are replaced by the resource users having sufficient time and knowledge to undertake their activity at the level of good management practice. To be at this level requires investment in staff time training and firm resources. The benefits are in a long-term approach to managing the environment with good knowledge and practices. The downside of this option is knowing whether or not this is true in society and WRC can allow these activities to occur without any regulatory control. This is a large risk and a risk that WRC is not willing to take. This option then is not able to pass the test of being effective or efficient over the preferred proposed Plan, which is a combination of regulation and good management practice to meet the objectives of the proposed Plan.	The provisions will reduce sediment discharges to water and protect the soil resource from earthworks and others land disturbance activities. The provisions are different from the operative plan in their presentation and in a new regulatory format. This was achieved to improve the efficiency and effective of the operative rules that had issue with compliance and enforcement. The industry and council along with the community has accepted that regulation is necessary for certain activities on land and this is the most efficient way to meet the objective. The operative regulations are effective, the standard applied is well accepted and best practice techniques are becoming commonplace. The regional plan has not changed the core of this approach rather made improvements for efficiency and effectiveness.

The Greater Wellington Regional Council's purpose is to enrich life in the Wellington Region by building resilient, connected and prosperous communities, protecting and enhancing our natural assets, and inspiring pride in what makes us unique

For more information contact the Greater Wellington Regional Council:

Wellington office
PO Box 11646
Manners Street
Wellington 6142

T 04 384 5708
F 04 385 6960
www.gw.govt.nz/rps

Upper Hutt office
PO Box 40847
Upper Hutt 5018

T 04 526 4133
F 04 526 4171

Wairarapa office
PO Box 41
Masterton 5840

T 06 378 2484
F 06 378 2146

info@gw.govt.nz
www.gw.govt.nz
regionalplan@gw.govt.nz

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