

# Report to Collaborative Stakeholder Group – for Agreement and Approval

**File No:** 23 10 12  
**Date:** 25 May 2015  
**To:** Collaborative Stakeholder Group  
**From:** Policy Work Stream  
**Subject:** Assessment of policy instruments for sediment using the Draft CSG Policy Selection Criteria  
**Section:** **Agreement and Approval**

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## **Disclaimer**

This report has been prepared by Waikato Regional Council policy advisors for the use of Collaborative Stakeholder Group Healthy Rivers: Wai Ora Project as a reference document and as such does not constitute Council's policy.

## **1 Purpose**

The purpose of this report is:

1. To provide findings of an initial analysis of possible sediment policy instruments<sup>1</sup> identified by the Collaborative Stakeholder Group (CSG), assessed against their Draft Policy Selection Criteria.
2. To provide a working document to use in CSG workshops as the group investigates different policy instruments.

## **Recommendations:**

That the report "Assessment of policy instruments for sediment using the CSG Policy Selection Criteria" (Doc 3258508 dated 25 May 2015) be received for information.

That the CSG agree:

1. That this report is a working document to use in CSG workshops and for staff to use as a reference in the development of the s32 evaluation report.
2. The CSG provide feedback at the June CSG workshop, of any additional sediment policy instruments not in tables 2-8 in this report that could be explored.
3. The CSG provide feedback directly to staff, on any detailed text in the report about interpretations of the CSGs criteria or any additional information or evidence that would lead to a different conclusion in the analysis.

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<sup>1</sup> Throughout this report the term policy instrument is used where referring to a method or mechanism that government or business can use to change behaviour (Greenhalgh et al. 2014).

## 2 Background

The Collaborative Stakeholder Group have developed Draft Policy Selection Criteria (dated 24 April 2015 – DM#3183705) to use in assessing different policy instruments.

The CSG have not settled on any water body limits or targets. Because of the project timeline, the CSG are starting to investigate different policy instruments while technical information gaps are being filled and future scenarios modelled. The initial focus is on approaches for managing sediment.

The CSG had a presentation in February 2015 at CSG 9 on the Council's current sediment related approaches in the Waikato Regional Plan and the recently completed Waipa Catchment Plan. The CSG also had small group discussions to answer the facilitators focus question: Thinking about sediment and the approach in the Waipa Catchment Plan [and in addition to what you have heard about in the Regional plan and Waipa Catchment Plan] - What further measures might we consider for a Plan Change, to ensure we meet any limits and targets we set for sediment? (CSG workshop 9 notes DM#3277432).

## 3 CSG Draft Policy Selection Criteria

Policy approaches identified by the CSG from their workshop at CSG9 have been assessed in this report against the CSGs Policy Selection Criteria.

From a policy point of view, some of the CSG Draft Policy Selection Criteria lend themselves to deciding on the policy instrument. For instance, the criteria of whether the policy instrument is able to be implemented monitored and enforced is very useful and is also part of the section 32 analysis about effectiveness. Other CSG Draft Policy Selection Criteria are more relevant when deciding on the limits and targets and others for deciding on how the costs should be shared. Appendix 1 shows how the policy team has grouped the CSG Draft Criteria<sup>2</sup>.

The CSG Draft Policy Selection Criteria used in the report which are most relevant to selecting policy instruments fall under the broad categories:

- Realistic to implement, monitor and enforce
- Allows for flexibility and intergenerational land use
- Optimises environmental, social and economic outcomes
- Supported by clear evidence

Each of the 4 broad categories above has 2-5 criteria. Each criteria is assessed against each of the possible policy instruments in Tables 2-9 of this report. While not included in Tables 2-9, the overarching criteria "Gives effect to the Vision and Strategy" and "RMA (including the NPS Freshwater Management)" are, of course, fundamental to the choice of policy instrument.

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<sup>2</sup> Refer to report titled "Template for Waikato Regional Plan Change No. 1 - Waikato and Waipa River Catchments" DM#3248906 for details of where the CSGs Draft Policy Selection Criteria fit into the three stages of policy design.

## 4 Applying the CSG Draft Policy Selection Criteria

The approaches identified by the CSG at CSG 9 were summarised, with similar approaches combined (refer to Appendix 3). Seven policy options have been explored in the tables below. The appropriateness of a policy instrument depends on a number of factors, including the technical information that defines the problems and the outcome that we want to achieve. This informs the policy analysis on the best ways to achieve them.

The CSG discussed a template for the Section 32 Report in the April CSG workshop. It was noted that additional criteria are included in the Section 32 template, taken from the RMA as well as Ministry for the Environment guidance.

### 4.1 Explanation of the analysis in the attached tables

The policy instruments are described in general terms at this early stage. Each policy instrument in the following tables can be fine-tuned as discussion and information collection progresses.

An overview table is intended to be a quick reference guide (Table 1).

Tables 2 - 9 is the detailed analysis of existing and new sediment management approaches. Each table includes a general description of the policy, and what this means for the landowner. Policy instruments are grouped based on whether the sediment leaving the property is being measured in the stream, or whether some sort of action by the landowner is used instead of a direct measurement. Appendix 2 provides information from the literature about ways of grouping policy instruments.

The analysis in Tables 2-9 was drawn from discussion with WRC policy, economics, regulatory, compliance and extension<sup>3</sup> staff and from documents referenced in this report.

### 4.2 Key findings

As would be expected, no single instrument scores well on all criteria. This has several implications for further work by the CSG:

- a) Choice of instrument/s will vary according to the nature and size of the problem in different contexts. Therefore, to finalise the policy recommendations, more understanding of context and possible constraints is necessary.
- b) Careful attention must be paid to articulating and justifying the reasons for choice of instrument.
- c) Confidence in achieving the outcomes will depend on the ability of the instrument to change landowner practices or land use. Whilst the targets and limits /objectives are not yet known, voluntary action alone may not achieve the desired change. Therefore testing the interventions with landowners would be worthwhile.

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<sup>3</sup> Extension is about working with people to facilitate change. This is achieved by helping people gain knowledge and providing support. APEN website <http://www.apen.org.au/what-is-extension>.

- d) The analysis highlighted that the implementation of instruments suggested by the CSG is likely to require a high level of resourcing and resources from multiple parties. This suggests further exploration of resourcing with possible implementing agencies would be worthwhile.
- e) Because the CSG Draft PSC can be interpreted in many ways the group will need to have ongoing discussion in order to clarify the intent of particular Criteria.

## 5 Discussion

This is not an exhaustive list of possible policy instruments and there may be additional instruments for consideration for the other contaminants. Further assessment of specific instruments will reveal additional consideration and possible tensions.

### **Matters for further discussion are:**

1. Where will a 'do nothing more than existing' policy approach get us? Exploring: The gap between existing water quality and desired outcomes. The CSG doesn't yet have limits and targets but there are some ideas about desired outcomes (see WRC DM# 3357816 CSG Facilitators Summary of CSG work shopping on attributes in workshops 8 to 10).
2. If new provisions for sediment are necessary, should current approaches be continued or replaced?
3. What instrument will primarily be responsible for changing the behaviour of landowners? Should a combination of policy instruments be used?
4. Answering both 2) and 3) above will need further details on potential new provisions.

### **Next steps to more fully assess feasible instruments:**

1. Interrogation of the technical data and knowledge, to identify what might be the most effective change we want to see. This will assist with fine-tuning each policy instrument.
2. In order to assess whether each existing instrument takes an evidence-based and knowledge-based approach:
  - For existing policy, highlighting the evidence used to support its choice.
  - For possible policy instruments there is a need for input from TLG and WRC staff.
  - Clear articulation of knowledge gaps.
  - CSG and decision makers to clearly articulate reasoning for decisions, assumptions made and considerations in light of information gaps.
3. For CSG criteria around 'Realistic to monitor, implement and enforce' the analysis needs:
  - Continued input from compliance, enforcement and extension staff, including catchment plan experts.
  - Input from industry people experienced with designing and implementing current programmes working with landowners<sup>4</sup>. Ongoing input from the CSG, their sectors and potentially affected landowners.

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<sup>4</sup> The June 4th CSG sector-led discussion on current industry approaches will provide more information for the CSG on implementation.

## 6 Summary

In this report seven policy instruments based on CSG discussions have been analysed using an interpretation of the CSG Draft Policy Selection Criteria.

The analysis highlighted that:

- The choice of instrument/s will vary according to the nature and size of the problem posed by the contaminants in different contexts.
- No single instrument scores well on all criteria because there are tensions in the criteria themselves.
- Consequently, careful attention must be paid to articulating and justifying the reasons for choice of instrument.

This analysis has highlighted the complexity and difficulty of making informed choices about policy instruments.

*Report prepared by:*

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**Table 1: Overview table**

	Existing	Existing	Existing	Possible	Possible	Possible	Possible
<b>Instrument</b>	<b>Policy A</b> Regional Plan general discharges rules <u>Rules</u> based on requiring landowner to not cause a breach of in stream limit (standard)	<b>Policy B</b> Regional Plan rules <u>Rules</u> that apply to everyone that spell out what has to be done and how (the technology or 'hardware' on a farm, and the process or management practices)	<b>Policy C</b> Waipa Catchment Plan Financial <u>subsidies</u> for undertaking activities (farm practices and technologies) on the farm that address sources of sediment	<b>Policy D</b> <u>Rules</u> that requires landowners have a farm plan that spells out what the landowners do and how	<b>Policy E</b> <u>Tender</u> where landowners tender land management agreements	<b>Policy F</b> Financial <u>subsidies</u> to promote alternative land use based on zoning of land to indicate "best" use of the land	<b>Policy G</b> <u>Rules</u> that permanently retire high risk land from agriculture
Policy descriptor	Regulation	Regulation	Incentives	Regulation	Tender	Incentives	Regulation
Applies to all, applies to specific areas, or tailored for each farm	Generic	Generic	Tailored	Tailored	Tailored	Tailored	Generic

Note: Some options are mutually exclusive of others. Others approaches can be done in combination.

Note: Generic means same general approach for all dischargers or groups of dischargers.

# Analysis of existing WRC policy instruments assessed against the CSG Draft PSC

Table 2: Existing WRC policy instrument

## Policy A: Generic performance based regulation

Instrument	Policy A Regional Plan general discharges rules <b>Rules based on requiring landowner to not cause a breach of in stream limit (standard)</b>
What this instrument might mean for a landowner	Consent is needed if activities result in adverse effect in water body going over the effects threshold.  Landowners choose the activities they change in order to meet stream limit <sup>5</sup> when undertaking activities on farm that may generate discharges into water e.g. from roading, tracking and vegetation clearance. The activities shall meet a standard in any receiving water.
Policy descriptor	Regulation
Process, technology or performance based <sup>6</sup>	Performance based
Applies to all landowners, applies to specific areas, or tailored for each farm	Generic
Voluntary or compulsory	Compulsory
CSG Draft Policy Section Criteria	
Does the policy:	Supported by clear evidence
Take an evidence-based and knowledge-based approach (including Mātauranga Māori)?	Standard based on the best knowledge available (i.e. water quality guidelines) to prevent adverse effects of sediment on water. Sets a concentration standard for activities or discharges in all waters after reasonable mixing.  Landowners need to know which practices contribute sediment when undertaking activities, and how to mitigate these.
Prioritise efforts to achieve catchment solutions?	<b>No</b> , Everyone has to meet the standard (set for particular water classes).
Is the policy:	Realistic to monitor, implement and enforce
Able to be measured, monitored and reported?	<b>Measurement - difficult</b> , For sediment, performance outcomes (overall losses or an in-stream limit) would be difficult to measure. There may be some basic measurements that can be done by landowners for sediment

<sup>5</sup> For example WRC existing rules – WRP 3.2.4.6 Suspended Solids Standard and is referred to in the plan e.g. WRP 5.1.5 Conditions for permitted activity rule (soil disturbance, roading and tracking and vegetation clearance), WRP 4.3.5.4. permitted activity rule livestock on the beds and banks of river and lakes.

<sup>6</sup> Process based is about the ways in which things are done, as opposed to defined performance outcomes, or the adoption of specific technologies" (Gunningham and Sinclair 2005).

Instrument	<p style="text-align: center;"><b>Policy A</b></p> <p style="text-align: center;"><b>Regional Plan general discharges rules</b></p> <p style="text-align: center;"><b><u>Rules</u> based on requiring landowner to not cause a breach of in stream limit (standard)</b></p>
	<p>e.g. in-stream clarity with black disc.</p> <p><b>Monitored, reported and enforced – Ease: hard to very hard,</b> Current rules in the plan are mostly monitored in areas with concentrations of the same activity (e.g. forestry) in the catchment. Problems more likely to be identified after a complaint made after event occurred. Breaches in the rule may be easier to identify in smaller streams.</p> <p>Requires landowner awareness of the rules and conditions of the permitted activity, this could be low.</p> <p>Relating on land event to measures in stream is very difficult.</p>
Implementable and technically feasible?	<p><b>No</b>, not for farm scale application</p> <p>Implementation cost for implementing agencies (and therefore ratepayers) could be very high for the implementation, monitoring and enforcement.</p> <p>At a comprehensive scale would be difficult to undertake the required monitoring.</p> <p>Time consuming to track down source event after incident occurs.</p> <p>Existing rules work in conjunction with technology standards.</p> <p>In order for Policy A (applied more widely than currently) to be at all feasible and implementable:</p> <ul style="list-style-type: none"> <li>• Adequate monitoring and enforcement.</li> <li>• Large scale increase in monitoring resources (e.g. staff, timing of monitoring) and possibly changes in the monitoring process.</li> <li>• Landowners are clear about how to comply and use effective actions (mitigations) to recue or capture sediment from their activities.</li> </ul>
Administratively efficient?	<p><b>For the landowner</b></p> <p>Difficult for landowners to determine whether they are in compliance because it is a threshold in the water as to whether they need consent. For example one day a landowner is compliant (i.e. doesn't need consent) the next day a landowner does exceeds the limit.</p> <p><b>For implementing agencies/s:</b></p> <p>This type of rule in current plan exists in support of other process and technology based rules.</p>
<b>Does the policy:</b>	<b>Optimises environmental, social and economic outcomes</b>
Aim for cost-effective solutions?	<p>A property specific requirement based on individual contribution is more likely to encouraging action to happen where the implementation cost is less.</p> <p>Expect monitoring costs would fall on ratepayers and could be very high or low depending on how much monitoring is undertaken.</p> <p>Flexibility for landowner to search for cheaper mitigations to meet standards.</p>



<b>Instrument</b>	<b>Policy A</b> <b>Regional Plan general discharges rules</b> <b><u>Rules</u> based on requiring landowner to not cause a breach of in stream limit (standard)</b>
Provide confidence and clarity for current and future investment? <sup>7 8</sup>	<p><b>No</b>, for landowners For people undertaking activities that cause soil disturbance/ vegetation clearance etc currently this rule applies. It can be unclear in advance when activity will breach the standard and what remedial actions will be required.</p> <p><b>No</b>, for stakeholders and community It unclear that application of this type of standard on diffuse discharges more broadly than currently in the plan and increased enforcement of this type of standard would meet water quality outcomes. Relies on effective actions to capture emissions being undertaken by landowners.</p>
Provide realistic timeframes for change?	<p><b>Depends</b> on when the rule comes into effect. Little information exists about compliance with the existing regulation. Therefore it would be predicted that landowner change under this rule would be unlikely to occur at a rate or scope required without additional intervention/ policy.</p>
<b>Does the policy</b>	<b>Allows for flexibility and intergenerational land use</b>
Foster innovation?	<p><b>Yes</b>, Landowners can choose practices and technologies that are suited to the farm business. Less restrictive and rigid than process or technology based rules.</p>
Encourage positive actions being taken?	<p><b>No</b>, Does not specify actions but outcomes. It can be difficult for landowners to know if they are doing enough to meet an in-stream standard, which is cumulative. Performance standards may not necessarily encourage behaviour beyond meeting the standards.</p>
Allow for change and review as new information and issues arise?	<p><b>No</b>, not the standards in the plan. A public review is required for the rule to be changed. Landowners able to change practices they use to meet the standard with new information.</p>
Provide flexibility of future land use (including the return of Treaty settlements land and multiple Māori owned land)?	<p><b>Yes</b>, As long as the new land use can still meet the rule, there is nothing to prevent land use change.</p>
Take account of complexity and difference between farming systems and farm enterprises?	<p><b>Yes</b>, Landowners choose the actions they take to minimise the impact of their activities.</p>

<sup>7</sup> Assume this criteria also includes those with interests in the future of the water resource; not only those who use or wish to develop resources, but those affected by those uses, and the community as a whole.

<sup>8</sup> This criterion (provide confidence and clarity for current and future investment) has been split into landowners and the community as the overarching criterion is "Optimises environmental, social and economic outcomes". Therefore when thinking about community here we are thinking about those that experience or bear the public costs of declining water quality.

**Table 3: Existing WRC policy instrument**

**Policy B: Generic process and technology based regulation**

Instrument	Policy B Regional Plan rules (Land and Soil module, Water module, River and Lake bed module) <sup>9</sup> <b>Rules that apply to everyone that spell out what has to be done and how (the technology or ‘hardware’ on a farm, and management practices)</b>
What this instrument might mean for a landowner	<p>Consent is needed if the intensity or size of a listed activity is over a threshold (for instance one threshold is the volume of earth disturbed).</p> <p>If a landowner is undertaking an activity in the Waikato or Waipa catchment and they are unable to comply with the conditions of a permitted activity rule a resource consent must be obtained. The consent sets out what can be done and how it should be done.</p> <p>Example of listed activities that every farm would need to get a consent if a permitted activity threshold was breached:</p> <ul style="list-style-type: none"> <li>- Cattle access to wetlands and streams</li> <li>- Earthworks (tracks, quarries)</li> <li>- Cultivation</li> <li>- Stock crossings, bridges</li> <li>- Drainage activities around wetland and similar areas</li> </ul>
Policy descriptor	Regulation
Process, technology or performance based	Process and technology
Applies to all landowners, applies to specific areas, or tailored for each farm	Generic
Voluntary or compulsory	Compulsory
CSG Draft Policy Section Criteria	
Does the policy:	Supported by clear evidence
Take an evidence-based and knowledge-based approach (including Mātauranga Māori)?	<p>Uses best knowledge available about which practices are most likely to result in sediment entering water and managing those that are more suited to management by rules.</p> <p>Standards (specification standards, technical or design standards) cannot be quickly revised as new technology is developed, which could impact on the potential for gains of new technology.</p>
Prioritise efforts to achieve catchment solutions?	<p><b>No,</b></p> <p>Not prioritised by location i.e. rules apply everywhere regardless of possible variation in effect of sediment on water bodies. There are however some rules for activities that are specified as region wide some are catchment specific rules.</p> <p>Note: Rules could be written to apply differently to areas of highest risk of erosion, could make interpretation more difficult.</p>

<sup>9</sup> Note this high level policy instruments analysis does not specifically consider all provisions in the Waikato Regional Plan.

<b>Instrument</b>	<p style="text-align: center;"><b>Policy B</b></p> <p style="text-align: center;"><b>Regional Plan rules (Land and Soil module, Water module, River and Lake bed module)<sup>9</sup></b></p> <p style="text-align: center;"><b>Rules that apply to everyone that spell out what has to be done and how (the technology or ‘hardware’ on a farm, and management practices)</b></p>
<b>Is the policy:</b>	<b>Realistic to monitor, implement and enforce</b>
<p>Able to be measured, monitored and reported?</p>	<p><b>Measured - possible,</b></p> <p>Easiest part of this type of rule to monitor is if it is something that can be seen, or counted (this is called a technology standard, where the rule spells out the hardware or technology).</p> <p>Examples of technology standards (these examples are not in the current regional plan):</p> <p>e.g. “every stream of xx size that is crossed by stock or machinery must have a bridge built according to xx standard”</p> <p>e.g. every dairy farm must have a spray irrigator /land-based dairy effluent disposal system</p> <p>However:</p> <ol style="list-style-type: none"> <li>1. Landowners may already have the technology (e.g. a bridge) but the rule requires higher/different specifications so the technology has to be checked and retrofitted. This can be managed e.g. by “grandfather existing lawfully built structure.</li> <li>2. Over time, there are new specifications for the technology e.g. new engineering specs.</li> </ol> <p><b>Monitored, reported and enforced – Ease: hard,</b></p> <p>Harder to monitor <b>how</b> a landowner carries out an activity This is called a process standard.</p> <p>Monitoring compliance with management activities (especially any time bound rules e.g. avoiding grazing wet areas for a specified period) would be very difficult.</p>
<p>Implementable and technically feasible?</p>	<p><b>Yes,</b></p> <p>Depends on what is required in the rule.</p> <p>These types of standards that set out how (process or technology) are generally easier to enforce and monitor than performance standards (performance standard example here policy A). For example it may be easier to enforce a rule that directs a particular practice e.g. roading design compared with breaching a standard in the water.</p> <p>Some activities may be difficult to write as rules that could be consented for and or monitored.</p> <p>May need to consider complementary approaches for actions that are difficult to manage via rules if they present a significant problem for sediment.</p> <p>In order for Policy B (expecting more than currently), to be at all feasible and implementable:</p> <ul style="list-style-type: none"> <li>• Adequate monitoring and enforcement.</li> <li>• Increased monitoring resources (e.g. staff, timing of monitoring).</li> <li>• Landowners are motivated to act.</li> </ul>

Instrument	<p style="text-align: center;"><b>Policy B</b></p> <p style="text-align: center;"><b>Regional Plan rules (Land and Soil module, Water module, River and Lake bed module)<sup>9</sup></b></p> <p style="text-align: center;"><b>Rules that apply to everyone that spell out what has to be done and how (the technology or ‘hardware’ on a farm, and management practices)</b></p>
	<ul style="list-style-type: none"> <li>The extent to which emission reductions require ongoing changes (e.g. fencing, riparian zones) that are easily visible to an independent observer.</li> </ul>
Administratively efficient?	<p><b>For the landowner</b></p> <p>Once-off cost of gaining a consent (if landowner doesn’t comply with Permitted Activity).</p> <p>Landowner covers cost of undertaking actions to reduce emissions.</p> <p>Ongoing standard annual charges. WRC standard operating policy is that every hour of staff time to monitor is charged to the consent holder.</p> <p>If compliance checking is fast and easy to check – then it is cheaper for landowners and implementing agencies. Complex standards would take more staff time.</p> <p><b>For implementing agencies/s</b></p> <p>It can be monitored and charged for.</p> <p>Similar rules apply across catchment, meaning not relying on all staff having detailed specialised understanding that may be required for more complex policies.</p>
<b>Does the policy:</b>	<b>Optimises environmental, social and economic outcomes</b>
Aim for cost-effective solutions?	<p>A property specific requirement based on individuals’ contribution is lends itself to encouraging action to happen where the implementation cost is the cheapest to happen.</p> <p>Under this approach landowners undertake different levels of actions, some relatively cheaply, others more costly.</p> <p>To be met across landowners irrespective of different cost (i.e. little flexibility for landowners to choose the cheapest mitigation for them).</p> <p>Note: If rule was to focus on priority areas this could be one means to target public implementation costs and private expenditure to high risk property/areas, but may not be cheapest.</p>
Provide confidence and clarity for current and future investment?	<p><b>Yes</b>, for landowners if a resource consent is for a long enough time period to justify investment e.g. 20 -35 years (max allowed by RMA is 35 years).</p> <p><b>Yes</b>, for stakeholders and community</p> <p>Assumes that rule requirements will achieve sufficient sediment reduction to improve water quality and that regulation is implemented by council and landowners and achieves behaviour change.</p> <p>Consents with longer timeframes may be riskier for achieving community and stakeholder outcomes in the future.</p> <p>Rules only relate to some activities.</p>
Provide realistic timeframes for change?	<p><b>Depends</b> on when rule comes into effect.</p> <p>Timeframes sometimes negotiated during consent process e.g. Horizons One Plan.</p>

<b>Instrument</b>	<b>Policy B</b> <b>Regional Plan rules (Land and Soil module, Water module, River and Lake bed module)<sup>9</sup></b> <b>Rules that apply to everyone that spell out what has to be done and how (the technology or 'hardware' on a farm, and management practices)</b>
	If significant technology investment by farmers required in short timeframe could be more difficult, may mean improvement in water quality is not achieved at the rate and scope required.
<b>Does the policy</b>	<b>Allows for flexibility and intergenerational land use</b>
Foster innovation?	<b>No,</b> The rule defines <u>what</u> has to be done and how is it done. For instance, if rule defines design specifications of technology, landowners have little opportunity to modify design.
Encourage positive actions being taken?	<b>Yes,</b> because specified actions achieve better water quality.
Allow for change and review as new information and issues arise?	<b>No,</b> For rules, a public review is required for the rule to be changed.
Provide flexibility of future land use (including the return of Treaty settlements land and multiple Māori owned land)?	<b>Yes,</b> As long as the new land use can still meet the rules, there is likely to be nothing to prevent land use change e.g. a requirement for a bridge doesn't stop a change in land use.
Take account of complexity and difference between farming systems and farm enterprises?	<b>No,</b> Uniform rules reduce the opportunity for landowners to tailor their response. As rules are generic in nature, arbitrary decisions in the rules can mean consent may be required or not for similar action depending on where the standard set.

**Table 4: Existing WRC policy instrument**

**Policy C: Tailored process and technology subsidies**

<b>Instrument</b>	<b>Policy C</b> <b>Waipa Catchment Plan</b> <b>Financial <u>subsidies</u> for undertaking activities (farm practices and technologies) on the farm that address sources of sediment</b>
What this instrument might mean for a landowner	Landowners choose whether to do a farm plan (having to have a farm plan can be a criterion for eligibility for assistance with cost of actions), then choose actions they will implement. Their cost is time to do the farm plan and then a part share of the cost of their chosen actions; ratepayers pay the remainder (e.g. free expert advice for farm planning and cost-sharing of actions in the farm plan).  NB: Waipa Catchment Plan all Waipa landowners can get some cost-sharing and this rises to ratepayer funding 70% of cost in high risk erosion sub-catchments.

<b>Instrument</b>	<b>Policy C Waipa Catchment Plan Financial <u>subsidies</u> for undertaking activities (farm practices and technologies) on the farm that address sources of sediment</b>
	<b>Note: Policy C and Policy D are the options where the current industry approaches could be modified for use.</b> Both C and D as generally described in this report, involve some sort of property-specific mitigation actions undertaken by the landowner. Industry or certified third party agencies could work directly with landowners to define which mitigations are undertaken and/or provide auditing of their implementation (with appropriate accountability for funds, e.g. government, industry, agencies, expenditure).
Policy descriptor	Subsidies
Process, technology or performance based	Process and technology
Applies to all landowners, applies to specific areas, or tailored for each farm	Tailored
Voluntary or compulsory	Voluntary
<b>CSG Draft Policy Section Criteria</b>	
<b>Does the policy:</b>	<b>Supported by clear evidence</b>
Take an evidence-based and knowledge-based approach (including Mātauranga Māori)?	Assume that: Targeted investment to high risk areas rather than open eligibility. Practices funded are those identified as contributing to water quality outcomes in research, with appropriate efficacy that allow for location differences. The person/s developing the farm plan draw on research of appropriate rigour and appropriate forms of knowledge in developing mitigations that contribute to emission reductions. Activities and or technologies funded are a sound replacement (i.e. provide water quality benefits) for the current activities. Sound evidence-based and knowledge-based approach to identify priority areas.
Prioritise efforts to achieve catchment solutions?	<b>Yes</b> , if target investment – e.g. target high priority catchment areas. The Waipa Catchment Plan takes a strategic approach integrating a range of issues. Less surety of what agencies should pay to get the change on ground, therefore public funding could pay more than cost. Intervention not addressing activities that may cause sediment in the rest of the catchment, only in areas where farmers uptake funds and take action.
<b>Is the policy:</b>	<b>Realistic to monitor, implement and enforce</b>
Able to be measured, monitored and reported?	<b>Measured – possible</b> , Assume accountability for funds received - including evidence required that actions are done prior to any funding being given. If commitment (e.g. memorandum of encumbrance) would be required and/or what level of payment (e.g. accumulated \$10,000 to one landowner).

<b>Instrument</b>	<b>Policy C</b> <b>Waipa Catchment Plan</b> <b>Financial <u>subsidies</u> for undertaking activities (farm practices and technologies) on the farm that address sources of sediment</b>
	<b>Monitored, reported and enforced – Ease: moderate,</b> Some management practices would be harder to audit than any proposed technologies.
Implementable and technically feasible?	<p><b>Yes</b>, the Council has a number of incentive programs including linkages with other funding agencies (e.g. Waipa Catchment Plan funding from Waikato River Authority). Subject to budgetary constraints, potentially large costs to funders.</p> <p>The focus of the subsidy program may be different and take in a broader range of objectives (not all aligned with other funding agencies). Unclear if this could present tensions in assessment of eligibility.</p> <p>Depends also on alignment between the other funding sources or support agencies (e.g. industry) and any additional reporting for Council in line with other funding body requirements.</p> <p>In order for Policy C (expecting more than currently), to be at all feasible and implementable:</p> <ul style="list-style-type: none"> <li>• Adequate funding and resources (e.g. checking that activities undertaken).</li> <li>• The extent that activities chosen by landholders align with practices that reduce emissions.</li> <li>• Enough landowners are motivated to act (undertake actions).</li> <li>• The extent to which emission reductions are based on changes that are aligned with these types of funding sources (i.e. what activities are funded).</li> </ul>
Administratively efficient?	<p><b>For landowner/s</b> Assume the program is designed to reduce administrative requirements on landowners' time.</p> <p><b>For implementing agencies/s</b> Programme would likely require multiple visits by technical staff for funds to be awarded. Need to have the funds and resources to have timely delivery and monitoring of the programme. Size of fund, to achieve the desired amount of landowner action and potential requirement for external source of funds.</p>
<b>Does the policy:</b>	<b>Optimises environmental, social and economic outcomes</b>
Aim for cost-effective solutions?	<p>Could be more costly voluntary instrument in comparison to a tender program.</p> <p>Single cost share rate offered to all compared to tender system.</p> <p>The Waipa Catchment Plan approach is to offer varying percentage cost share depending on priority location. The cost share is the same for all landowners in a particular priority area.</p> <p>Expertise required in assessing value for funds invested by</p>

Instrument	<p style="text-align: center;"><b>Policy C</b>  <b>Waipa Catchment Plan</b>  <b>Financial <u>subsidies</u> for undertaking activities (farm practices and technologies) on the farm that address sources of sediment</b></p>
	<p>agencies. Tender instruments might perform better in determining value (i.e. how much to pay).</p> <p>Programs often:</p> <ul style="list-style-type: none"> <li>- First in first served, same amount for everyone.</li> <li>- Different actions cost different amount, no way of making trade-offs with an incentives program.</li> <li>- May not target areas or actions where the greatest improvement can be achieved</li> </ul> <p>Prioritising areas helps address some of these limitations.</p>
Provide confidence and clarity for current and future investment?	<p><b>Yes</b>, for landowners</p> <p>If not interested, landowners don't participate in the subsidy scheme.</p> <p><b>Uncertain</b> - for stakeholder/s and community due to uncertainty about outcomes/ rate and extent of change.</p> <p>Only under certain conditions do subsidies substantially influence the rate of action and they have limited potential to change the scale of change.</p>
Provide realistic timeframes for change?	<p><b>Yes</b>, the timeframe is negotiated and voluntary in the first place.</p> <p>However, landowner uptake of practices or actions may not occur at a rate or scope that would achieve set water quality outcomes.</p>
<b>Does the policy:</b>	<b>Allows for flexibility and intergenerational land use</b>
Foster innovation?	<p><b>Probably not</b>, depends on the WRC criteria for particular technologies or practices and what landowners get money for.</p> <p>Criteria on what activities funded may not be best solution for water quality or landowner (i.e. least cost mitigations).</p> <p>Can be lots of variety in the way landowners undertake the practices or technology, which may mean the new approach does not provide expected water quality benefits.</p>
Encourage positive actions being taken?	<p><b>Yes</b>,</p> <p>May encourage actions sooner because landowner not paying full cost.</p> <p>May be seen by landowners as warning that regulation will follow.</p> <p><b>But</b></p> <p>May only get the change in activity or technology funded not associated management actions that have positive benefits for water quality.</p> <p>Policy design could consider encouraging multiple positive actions being undertaken on a farm (e.g. through a matrix of payment recognising other positive action in the level of funding).</p>
Allow for change and review as new information and issues arise?	<p><b>Yes</b>, it is set up outside RMA plan.</p> <p>WRC funding eligibility criteria could change with new information (new technology), so future applicants will get the benefit of those changes.</p>
Provide flexibility of future land use (including the return of	<p><b>Yes</b>, undertaking activities does not prevent change in land use.</p> <p>If infrastructure is part of the incentive then may not be able to</p>



Instrument	<b>Policy C</b> <b>Waipa Catchment Plan</b> <b>Financial <u>subsidies</u> for undertaking activities (farm practices and technologies) on the farm that address sources of sediment</b>
Treaty settlements land and multiple Māori owned land)?	change that easily. Depends on how the funding investment is secured - if tied to title then some restriction on future land use.
Take account of complexity and difference between farming systems and farm enterprises?	<b>Yes</b> , Assistance, subsidies, farm plans / property plans and information could accommodate variation in biophysical and other conditions.

## Analysis of possible sediment policy instruments assessed against the CSG Draft PSC

Table 5: Possible sediment policy instrument

### Policy D: Tailored process and technology regulation

Instrument	<b>Policy D</b> <b><u>Rules</u> that requires landowners have a farm plan that spells out what the landowners do and how</b>
What this instrument might mean for a landowner	<p>All landowners in the Waikato or Waipa catchment (or specific parts of the catchment) require a resource consent. They must do a farm plan and this will set out their specific actions to mitigate sediment emissions.</p> <p><i>Examples:</i></p> <p><i>Landowner A farm plan says no winter grazing of heavy stock on mapped blocks a, b, c on farm</i></p> <p><i>Landowner B on flatter contour/free draining soil can graze any stock, but by 2017 must exclude cattle from mapped wet gullies and steep bush margins.</i></p> <p>Landowners would be audited and required to keep records supporting actions they have undertaken in the farm plan and supply these as part of the audit process.</p> <p><b>Note: Policy C and Policy D are the options where the current industry approaches could be modified for use.</b> Both C and D as generally described in this report, involve some sort of property-specific mitigation actions undertaken by the landowner. Industry or certified third party agencies could work directly with landowners to define which mitigations are undertaken and/or provide auditing of their implementation.</p>
Policy descriptor	Regulation
Process, technology or performance based	Process and technology standards
Applies to all landowners, applies to specific areas, or tailored for each farm	Tailored
Voluntary or compulsory	Compulsory

Instrument	Policy D <b>Rules that requires landowners have a farm plan that spells out what the landowners do and how</b>
<b>CSG Draft Policy Section Criteria</b>	
<b>Does the policy:</b>	<b>Supported by clear evidence</b>
Take an evidence-based and knowledge-based approach (including Mātauranga Māori)?	<p>Assumes that: The approach is to identify some level of consistency in consents and what they require across landowners. The person/s developing the farm plan draw on research of appropriate rigour and appropriate forms of knowledge in developing mitigations that contribute to emission reductions. In policy based on this design, that enough is understood about the uptake of actions by landowners, and the actions themselves that will be in the farm plan, i.e. research is done on this.</p>
Prioritise efforts to achieve catchment solutions?	<p><b>Dependent on design:</b> Depends how broadly the requirement applied (e.g. everyone in catchment or specific parts of the catchment). Depends on farm plans that are focused on important and targeted problems or areas of risk. Flexibility in choice of activities for individual farmers may mean less coordination of efforts for catchment outcomes.</p>
<b>Is the policy:</b>	<b>Realistic to monitor, implement and enforce</b>
Able to be measured, monitored and reported?	<p><b>Measurement - possible,</b> Can check landowners have a plan, e.g. met the requirements and developed by accredited person etc. Assumes consistency across implementers (including private providers/industry).</p> <p><b>Monitored, reported and enforced – Ease: Very hard,</b> Complicated to monitor. Could be expensive and resource intensive to monitor or audit that actions in the plan occur. Could end up with a lot of self report by landowners required, and verification by implementing agencies would be time consuming. Some management practices in the plan would be harder to audit than any proposed technologies. If focus is only on high risk areas in the catchment and limited numbers of farm plans this makes it more manageable to a degree.</p>
Implementable and technically feasible?	<p><b>Difficult,</b> For all landowners to have farm plan resource consent Depends on what is required in the rule. Implementation cost for implementing agency/s could be high. May need to be supported by lots of engagement activity. If required straight away when rules come into force then large number of resources consents. Staggering may assist but still the <u>magnitude of consent numbers and ongoing requirements could be significant</u> for implementation agencies and/or service providers and/or industry (e.g. staff/consultants who are able do farm plans). Past policy implementation suggests landowners usually need time to work with council on what is required (e.g. 2 years) to get the consent applications in.</p>

Instrument	<p style="text-align: center;"><b>Policy D</b></p> <p style="text-align: center;"><b><u>Rules</u> that requires landowners have a farm plan that spells out what the landowners do and how</b></p>
	<p><b>Maybe</b>, the actions in the plan</p> <p>Likely to be more checking than for Policy B – both from council and landowners providing records to Council.</p> <p>Management activities in the farm plan difficult to audit.</p> <p>If every farm needs annual auditing for compliance - number of farms and resourcing could be impractical.</p> <p>Feasibility could depend on alignment with industry programmes and opportunity for industry to assist with implementation.</p> <p>Could require significant new specialised skills for Council staff (e.g. consideration of more aspects of the farm business).</p> <p>Availability of resourcing support and training of private providers and who supports this (e.g. industry).</p> <p>Other regional council have proposed this approach – however not been fully tested.</p> <p>In order for Policy D to be at all implementable:</p> <ul style="list-style-type: none"> <li>• Requires implementing agencies to have a comprehensive knowledge of the workings of the various sectors and their farm system.</li> <li>• Requires significant resources and time from a number of agencies.</li> <li>• Input and support from a range of agencies.</li> <li>• Likely significant co-production from all landowners (e.g. supplying record, self reporting).</li> </ul>
Administratively efficient?	<p><b>For landowner/s</b></p> <p>Require more time from landowners than currently (e.g. obtaining consents if required, reporting and auditing etc).</p> <p>Landowner covers cost of undertaking actions to reduce emissions.</p> <p>If actions required in resource consent are staggered over time, then landowner more able to budget.</p> <p>Significant record keeping requirement.</p> <p><b>For implementing agencies/s</b></p> <p>It could be more targeted in that all the information is assessed against the landowner’s farm plan – and covers a range of activities.</p> <p>Lot more landowner information to deal with, depend on timing – when information required.</p> <p>Cost recovery for council could be important.</p>
<b>Does the policy:</b>	<b>Optimise environmental, social and economic outcomes</b>
Aim for cost-effective solutions?	<p>The tailoring of the actions in the farm plans to each farm means that those who can do so relatively cheaply will be those who do most (i.e. some landowner will do more). Instrument would be less cost effective if designed to require everyone to contribute to the same level.</p> <p>Relying on the quality and skills of the people doing the farm plan.</p> <p>Depend on how many more landowners need consent - consent costs for Council and landowners.</p> <p>Possibly easier for landowner to know what they have to do as actions (practices and technologies) tailored to individual farm.</p>

Instrument	<p style="text-align: center;"><b>Policy D</b></p> <p style="text-align: center;"><b><u>Rules</u> that requires landowners have a farm plan that spells out what the landowners do and how</b></p>
	<p>Reliant on making what could be significant changes on farm for emission reductions. Some may require a range of steps or activities to ultimately achieve the desired change.</p> <p>The tailored nature of the policy – could produce significant cost for implementers.</p> <p>Could be easier than regulating lots of different practices.</p>
<p>Provide confidence and clarity for current and future investment?</p>	<p><b>Yes</b>, for landowners  <b>Uncertain</b> - for stakeholder/s and community.</p> <p>Could end up with comprehensive plans on paper with less security that plan actions will be implemented in practice.</p> <p>Difficult to extrapolate from evaluations of existing voluntary farm programs to predict likelihood of behaviour change or costs in situations where farmers have to undertake costly actions.</p> <p>Therefore for the community and other stakeholders design and auditing is very important for more confidence in achieving water quality outcomes.</p>
<p>Provide realistic timeframes for change?</p>	<p><b>Depends</b>, on when rule comes into effect. Could provide landowners time to stage changes.</p> <p>However, landowner uptake of practices or actions in the plan may not occur at a rate or scope that would contribute to desired water quality outcomes.</p>
<p><b>Does the policy:</b></p>	<p><b>Allows for flexibility and intergenerational land use</b></p>
<p>Foster innovation?</p>	<p><b>Yes</b>, landowners can choose what action (activities) to commit to in the farm plan and suggest approaches to manage emissions.</p>
<p>Encourage positive actions being taken?</p>	<p><b>Yes</b>, farm to take a whole of farm approach to decision making.</p> <p>The plan development could raise awareness by landowner's who may not traditionally engage in programmes of the types of activities that have positive benefits for water quality.</p> <p>The farm plans itself may not lead to behaviour change – need appropriate level of auditing and monitoring.</p> <p>Landowners, stakeholders and the community may experience this as a very different approach for Council in how they manage activities for water quality. May cover more activities on the farm, and involve farmers who have not required consent before.</p>
<p>Allow for change and review as new information and issues arise?</p>	<p><b>No, For rules</b>, a public review is required for the rule to be changed.</p> <p><b>For the farm plan:</b></p> <p>Depends on the opportunity to change actions and timeframes in the farm plan. Any change in the farm plan would need to reassess if the change in actions (activities) still meet the objective and is a suitable substitute.</p> <p>It would be expected that the requirement for a farm plan may not be easily changed. A process like changing a Nutrient Management Plan in the Taupo catchment may provide an approach to reviewing the farm plan.</p> <p>Could put in short review dates for the farm plans themselves, but landowners still need to meet emission reduction commitment in some form.</p>
<p>Provide flexibility of future land use (including the return of Treaty settlements</p>	<p><b>Yes</b>, As long as the new land use can still meet the rule, there is likely to be nothing to prevent land use change.</p> <p>Depends on how the instrument is designed and process of reassessing the plan, but new owners of the land would likely be responsible for the farm</p>

<b>Instrument</b>	<b>Policy D</b> <b><u>Rules</u> that requires landowners have a farm plan that spells out what the landowners do and how</b>
land and multiple Māori owned land)?	plan actions or commitments.
Take account of complexity and difference between farming systems and farm enterprises?	<b>Yes</b> , Farm plans themselves would likely be capable of accommodating variation in biophysical and other conditions and take account of some of the risk and cost in prioritising actions. Flexibility in the plan and actions required and extent of change required would depend on the overall policy objectives.

**Table 6: Possible sediment policy instrument**

**Policy E: Tailored process and technology tender**

<b>Instrument</b>	<b>Policy E</b> <b><u>Tender</u> where landowner tender land management agreements</b>
What this instrument might mean for a landowner	Landowners interested in accessing public funds to undertake activities to mitigate sediment emission compete by submitting an offer to undertake works for a price.  The tenders describe actions they are willing to take to enhance water quality and an assessment of the likely benefits and payment required to undertake the works.  Agencies rank the tenders and accept on cost for benefit offered until the budget is spent.  Landowners might tender a range of actions e.g. fencing and keeping stock out of wetland area and the ongoing management for pest and weeds or the restoration of tree cover on erosion-prone land.
Policy descriptor	Tender
Process, technology or performance based	Process and technology
Applies to all landowners, applies to specific areas, or tailored for each farm	Tailored
Voluntary or compulsory	Voluntary
<b>CSG Draft Policy Section Criteria</b>	
<b>Does the policy:</b>	<b>Supported by clear evidence</b>
Take an evidence-based and knowledge-based approach (including Mātauranga Māori)?	Assumes that: It would be expected that the assessment approach and criteria would draw on appropriate research and knowledge. Approach based on principle that: people with the information on what actions will costs are making the choice on what it would cost them. Little information provided by Council in developing tender on what is value, so as not to influence the tender market.
Prioritise efforts to achieve catchment solutions?	<b>Yes</b> , trying to get most works done at least cost to funding body who is managing the tender.  May not be targeting funds to higher risk areas. However the assessment

Instrument	Policy E <b>Tender where landowner tender land management agreements</b>
	criteria used to evaluate tenders can be used to target specific areas or problems.
<b>Is the policy:</b>	<b>Realistic to monitor, implement and enforce</b>
Able to be measured, monitored and reported?	<p><b>Measurement - possible,</b> Measurement would be important for the development of the various actions in the management agreements and the process of assessing tenders.</p> <p><b>Monitored, reported and enforced – Ease: moderate,</b> How designed and money paid out e.g. would there be requirement to inspect these works and/or provide funding to maintain them longer term as per agreement and actions tendered.</p>
Implementable and technically feasible?	<p><b>Yes,</b> Depending on auction design - could need funds to be available for a long term commitment (i.e. to make payment yearly) by the agencies implementing the auction. Does not always work with agencies funding arrangements, need to commit to additional ongoing cost.</p> <p>Public and or private resources to implement:</p> <ul style="list-style-type: none"> <li>- Require up-skilling to administer and implement the auction.</li> <li>- Need assessment and assessor consistency for either private or public provision.</li> <li>- Availability of experienced support services to help landowners identify e.g. what represents “value”.</li> </ul>
Administratively efficient?	<p><b>For landowner/s</b> Assume the programme is designed to reduce administrative requirements on landowners’ time. However, landowner develop tender document at their own cost and take into account administrative costs to them of being involved in the tender.</p> <p><b>For implementing agencies/s</b> Cost of processing tenders could be high. Could be resource intensive depending on: How much work agencies do to assess and administer agreements etc. How easily private providers could use the assessment criteria etc. Ranking bids – depend if sediment focussed or all contaminants etc.</p>
<b>Does the policy:</b>	<b>Optimises environmental, social and economic outcomes</b>
Aim for cost-effective solutions?	<p>Allows landowner willing to undertake activities at low cost – results in higher level of water quality improvements for expenditure (compared to a single cost share rate offered to all).</p> <p>Principle in tenders is that the people who have the information to determine the cost of management actions tender at that level. Landowners choose their approach to managing their cost of taking actions, risks etc.</p> <p>Allocates limited government funding in a cost effective way. Cost savings may not occur over successive rounds of tender.</p> <p>If designed and administered appropriately, funds are allocated to projects that reduce the most emissions for dollars spent.</p>
Provide confidence and clarity for current	<p><b>Yes,</b> for landowners Depend on design including the payment approach and agreement to hold</p>

Instrument	Policy E <b><u>Tender</u> where landowner tender land management agreements</b>
and future investment?	over funds over the long term. <b>Maybe</b> , For the community and stakeholder/s May take a long time to implement and therefore delay sediment emissions improvements. Only under certain conditions do subsidies substantially influence the rate of action and they have limited potential to change the scale of change.
Provide realistic timeframes for change?	<b>Yes</b> , However, enough landowners may not participate or agree to enough actions in order to meet desired water quality outcomes at the rate and scope required.
<b>Does the policy:</b>	<b>Allows for flexibility and intergenerational land use</b>
Foster innovation?	<b>Yes</b> , Landowners can offer what actions they feel comfortable with for the price they think appropriate and suggest approaches to manage emissions.
Encourage positive actions being taken?	<b>Yes</b> , those who have an interest in funds compete to undertake work for a price. Individuals set the cost share rate they willing to accept.
Allow for change and review as new information and issues arise?	<b>Yes</b> , As new technology or practices are developed they could be incorporated into the tender process for new application rounds. Possibly more difficult for landowner to change activities in the existing agreements once set up.
Provide flexibility of future land use (including the return of Treaty settlements land and multiple Māori owned land)?	<b>Yes</b> , For example if landowner tendered to fence off a riparian area, land use around it could be changed but landowner would need to maintain that area <b>No</b> , farm areas where management agreement is linked to land title could not change.
Take account of complexity and difference between farming systems and farm enterprises?	<b>Yes</b> , Landowners choose the actions they take to minimise the impact of their activities.

**Table 7: Possible sediment policy instrument**

**Policy F: Tailored, performance based incentive**

Instrument	Policy F <b><u>Subsidy</u> to promote alternative land use based on zoning of land to indicate “best” use of the land</b>
What this instrument might mean for a landowner	Landowners choose to change land use on areas of their property based on suggested “best” land use. The incentive could be Council forgoing consent cost if consent is required as part of change or possible cost share of a related cost that creates public benefits. The types of land use proposed could include: <ul style="list-style-type: none"> <li>- Ecological restoration.</li> <li>- Shifting from heavier stock classes to lighter stock (e.g. running beef cattle to running sheep).</li> <li>- Retirement of areas from primary production.</li> </ul>

<b>Instrument</b>	<b>Policy F</b> <b><u>Subsidy</u> to promote alternative land use based on zoning of land to indicate “best” use of the land</b>
Policy descriptor	Incentives
Process, technology or performance based	Performance based
Applies to all landowners, applies to specific areas, or tailored for each farm	Tailored
Voluntary or compulsory	Voluntary
<b>CSG Draft Policy Selection Criteria</b>	
<b>Does the policy:</b>	<b>Supported by clear evidence</b>
Take an evidence-based and knowledge-based approach (including Mātauranga Māori)?	Assume that: Alternative use/s are identified as contributing to water quality outcomes as research/knowledge suggests for those types of land. However, the zoning or new land use may not be those that research suggests to be more effective in specific cases (individual property).
Prioritise efforts to achieve catchment solutions?	<b>Yes,</b> Depends on what is funded and where (e.g. priority areas getting first go). Maybe the opportunity for landowners to develop opportunity together for multiple benefits.
<b>Is the policy:</b>	<b>Realistic to monitor, implement and enforce</b>
Able to be measured, monitored and reported?	<b>Measured - possible,</b> The incentive can be used as a means of checking that the change has been made by making payment conditional on completion of works.  <b>Monitored, reported and enforced – Ease: low to moderate,</b> For land management changes this may be trickier. Technology (e.g. fencing based on land class) that could make it easy to audit may not be in place.
Implementable and technically feasible?	<b>Yes,</b> education material could be produced. Decisions on what are “best” use of the land could depend on requirement for detailed information of soils, climate etc that may not be available and or very expensive to develop. Capacity for engagement activities with landowners and industry if needed to encourage uptake. In order for Policy F to be at all feasible and implementable, need: <ul style="list-style-type: none"> <li>• Sound knowledge of what are best uses (other viable agricultural land uses, retirement, etc) and appropriate rigour and detail to identify “best use”.</li> <li>• Sound assessment of where risk lies.</li> <li>• Adequate funding and resources (e.g. checking that activities undertaken).</li> <li>• Activities chosen by landholders align with practices that reduce emissions.</li> <li>• Enough landowners are motivated to act (i.e. undertake a change in production).</li> </ul>



<b>Instrument</b>	<b>Policy F</b> <b><u>Subsidy</u> to promote alternative land use based on zoning of land to indicate “best” use of the land</b>
Administratively efficient?	<p><b>For the landowner</b> Assume the program is designed to reduce administrative requirements on landowner’s time (e.g. the application process).</p> <p><b>For implementing agencies/s:</b> Programme would likely require visits by technical staff for funds to be awarded. Need to have the funds and resources to have timely delivery of the programme. Size of fund, to achieve the desired amount of landowner action and potential requirement for external source of funds.</p>
<b>Does the policy:</b>	<b>Optimises environmental, social and economic outcomes</b>
Aim for cost-effective solutions?	<p>Likely to be more cost-effective than blanket approaches that apply to anyone in the catchment (people selecting to be involved so actions occurs at random across the region).</p> <p>Potentially large budgetary costs for agencies and uncertain impact on reducing the sediment emissions.</p>
Provide confidence and clarity for current and future investment?	<p><b>Yes</b>, for landowners, if not interested landowners don’t need to change land use.</p> <p><b>Yes and No</b>, for stakeholders and community If agreement to access funds tied to title then current owner or future owner can’t change use. If retirement of land is involved then there is more confidence for the community that water quality into the future will be improved. Instrument would need to be designed to maximise changes in behaviour, however unclear if it would be enough to secure community expectation of water quality through continued long term land use change. Only under certain conditions do subsidies substantially influence the rate of action and they have limited potential to change the scale or scope of change.</p>
Provide realistic timeframes for change?	<p><b>Yes</b>, the timeframe is negotiated and voluntary in the first place. However, landowner change to alternative land use may not occur at a rate or scope that would contribute to desired water quality outcomes.</p>
<b>Does the policy:</b>	<b>Allows for flexibility and intergenerational land use</b>
Foster innovation?	<p><b>No</b>, Zoning suggests a variety of uses of land from current use, may only influence the rate of change. Possibility of various risks for the Council or landowner in choice of new land use. Can be lots of variety in the way landowner undertake the alternative land use which means the new approach does not provide the desired water quality benefits.</p>
Encourage positive actions being taken?	<p><b>Yes</b>, May encourage actions sooner because landowner not paying full cost. May be lower risk for landowners because some of the cost shared.</p>
Allow for change and review as new information and issues arise?	<p><b>Yes</b>, it is set up outside RMA plan. WRC funding eligibility criteria could change as new information comes, so future applicants will get the benefit of those changes.</p>

Instrument	Policy F <b><u>Subsidy</u> to promote alternative land use based on zoning of land to indicate “best” use of the land</b>
Provide flexibility of future land use (including the return of Treaty settlements land and multiple Māori owned land)?	<b>Yes</b> , However, depends on how the government investment in changes in land use is secured. For example if tied to title then maybe some restriction on future land use (where incentives have contributed to the use change).
Take account of complexity and difference between farming systems and farm enterprises?	<b>Maybe</b> , Landowners choose the land use within identified zoning. Depend on the range of options identified by the zoning.

**Table 8: Possible sediment policy instrument**

**Policy G: Tailored, performance based regulation**

Instrument	Policy G <b><u>Rules</u> that permanently retire high risk land from agriculture</b>
What this instrument might mean for a landowner	Rule has criteria for what is ‘high risk’ e.g. slope, land use capability class. If landowners with this land on their property wish to graze, crop or have plantation forest, have to apply for consent (which can be declined). NB: Draft Forestry National Environmental Standard anticipates this sort of rule.  Either: <ol style="list-style-type: none"> <li>1. Write set of criteria for what high risk land is, that is directly related to past and current research.</li> <li>2. Map the areas covered by the rule</li> </ol> Note this type of approach may also be used for the permanent retirement of wetlands.
Policy descriptor	Regulation
Process, technology or performance based	Performance-based
Applies to all landowners, applies to specific areas, or tailored for each farm	Generic
Voluntary or compulsory	Compulsory
<b>CSG Draft Policy Selection Criteria</b>	
<b>Does the policy:</b>	<b>Supported by clear evidence</b>
Take an evidence-based and knowledge-based approach (including Mātauranga Māori)?	Relate high risk to biophysical characteristics e.g. slope, soil etc Assumes suitable approach taken to determine high risk land.

Instrument	<p align="center"><b>Policy G</b></p> <p align="center"><b><u>Rules</u> that permanently retire high risk land from agriculture</b></p>
Prioritise efforts to achieve catchment solutions?	<p><b>Yes</b></p> <p>If rule covers areas where sediment modelling has shown to be riskier for sediment discharge.</p> <p>May only apply to few areas in the catchment.</p>
<b>Is the policy:</b>	<b>Realistic to monitor, implement and enforce</b>
Able to be measured, monitored and reported?	<p><b>Measured - possible,</b></p> <p>Result = land is either permanently retired or not. If not, then further check on whether owner has consent to continue to farm or forest.</p> <p><b>Monitored, reported and enforced – Ease: Moderate to Hard,</b></p> <p>Aerial monitoring could be less costly than on-ground monitoring.</p>
Implementable and technically feasible?	<p><b>Maybe,</b> Could be boundary and definition issues.</p> <p>Map boundary issues can be presented by rule based on map implementation. Identifying high risk areas on farm and monitoring could be difficult. Changing farm layout could be costly and may not be realistic.</p>
Administratively efficient?	<p><b>For the landowner</b></p> <p>Implementation cost to landowner could be high:</p> <ol style="list-style-type: none"> <li>1. New consents needed if want to continue</li> <li>2. Costs if new fencing is needed to exclude grazing land from retired area</li> <li>3. Change in farm “effective area” where land is retired</li> </ol> <p><b>For implementing agencies/s:</b></p> <p>Implementation cost to WRC is new set of consents and associated administrative costs.</p>
<b>Does the policy:</b>	<b>Optimises environmental, social and economic outcomes</b>
Aim for cost-effective solutions?	<p>Permanently retiring high risk land from agriculture. Need a very sound process to determining if the change in land use is appropriate, and will contribute towards the desired water quality outcomes.</p> <p>Targets public implementation costs and private expenditure to high risk areas</p> <p>Land use change could significantly change the farm business.</p>
Provide confidence and clarity for current and future investment?	<p><b>Unsure,</b> for landowners could depend on the term of the consent.</p> <p>For foresters, may not have certainty that high risk areas identified in the rules currently planted with trees could be harvested.</p> <p><b>Yes,</b> for stakeholders and community</p> <p>If high risk land is retired then there is more confidence for the community that water quality into the future will be improved, assuming restrictions stay the same over time.</p> <p>Depends if action can be taken to restrict opportunity to vary land use in the future.</p>
Provide realistic timeframes for change?	<p><b>No,</b> if rule comes into force immediately. Retirement of land could have broad range of business implications that would require time for farmers to consider implications.</p> <p>This would be significant change for impacted landowners.</p>

Instrument	Policy G <b>Rules that permanently retire high risk land from agriculture</b>
	In theory a rule should achieve change, in practice landowner change may not occur at the rate and scope required to meet desired water quality outcomes.
<b>Does the policy:</b>	<b>Allows for flexibility and intergenerational land use</b>
Foster innovation?	<b>No,</b> Assume that land that is not used for grazing and plantation forestry has few other options.
Encourage positive actions being taken?	<b>Yes,</b> Does not specify actions but outcomes.
Allow for change and review as new information and issues arise?	<b>No,</b> not the standards in the plan. A public review is required for the rule to be changed.
Provide flexibility of future land use (including the return of Treaty settlements land and multiple Māori owned land)?	<b>No,</b> aim for land use to be controlled for permanent retirement so could be counterproductive if the policy provides flexibility for future land use.
Take account of complexity and difference between farming systems and farm enterprises?	<b>No,</b> May limit the opportunity to utilise some areas of the farm and the flexibility that these areas may provide for some enterprises.

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Some of the concepts in the table have been draw from the following references as well as interpretations of Council Staff:

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# Appendix 1 Alignment of stages of the policy development process and the CSG's Draft PSC

## The Collaborative Stakeholder Group's Draft Policy Selection Criteria

24 APRIL 2015

### Gives effect to the Vision and Strategy

Does the policy give effect to the Vision and Strategy for the health and wellbeing of the Waikato and Waipa rivers?

### RMA (including the NPS Freshwater Management)

Does the policy:

- comply with the RMA (including the purpose of the Act)?
- take account of existing policy frameworks?

1  
Setting  
limits and  
targets

### Provides for Māori aspirations

Does the policy:

- provide for Māori to retain and use their taonga in accordance with their tikanga and kawa?
- give effect to Māori environmental, economic, cultural and social relationships with land and water?

### Achieves the restoration and protection of native habitats and biodiversity

Does the policy:

- support resilient freshwater ecosystems?
- support interconnectedness and connectivity between land and water?
- support healthy populations of indigenous plants and animals?

### Gives positive social and community benefits

Does the policy:

- minimise social disruption and provide social benefit?
- enhance people's use of the river?
- take account of unique features and benefits?
- result in outcomes people can identify with, own and feel proud of?
- achieve the range of values identified?

### Realistic to implement, monitor and enforce

Is the policy:

- able to be measured, monitored and reported?
- implementable and technically feasible?
- administratively efficient?

2  
Selecting  
policy  
instruments

### Allows for flexibility and intergenerational land use

Does the policy:

- foster innovation?
- encourage positive actions being taken?
- allow for change and review as new information and issues arise?
- provide flexibility of future land use (including Treaty settlements land and multiple Māori owned land)?
- take account of complexity and difference between farming systems and farm enterprises?

### Acceptable to the wider community

Does the policy:

- achieve sound principles for allocation?
- recognise efforts already made?
- exhibit proportionality (those contributing to the problem to contribute to the solution)?

3  
Sharing  
costs

### Optimises environmental, social and economic outcomes

Does the policy:

- aim for cost-effective solutions?
- provide confidence and clarity for current and future investment?
- provide realistic timeframes for change?

### Supported by clear evidence

Does the policy:

- take an evidence-based and knowledge-based approach (including Mātauranga Māori)?
- transparently show the costs for meeting the outcomes?
- prioritise efforts to achieve catchment solutions?
- set transparent limits and definitions?

## Appendix 2 Example of a policy instrument typology

Policy instruments are categorised in various ways in the literature. Authors differ in their grouping of instruments and what they consider to be policy instruments rather than as a means to support policy. For example describing education as a policy instrument versus it would be expected that some form of information would be required about the policy instruments. Below is one example of a policy instrument typology (MacDonald et al 2004).

### Environmental policy instrument typology (MacDonald et al. 2004 page 17)

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#### Non-market based instruments:

**Output or performance based standards** – this type of instrument involved setting limits on performance or outputs (e.g. limits on effluent load or concentration).

**Input, practice or process based standards** – these instruments can involve setting limits on input level, specifying that a particular technology be used in production (technology or best management practice requirements) or development and zoning regulations.

**Education, moral suasions** – these instruments seek to influence behaviour in ways that improve environmental outcomes of interest by educating those who create externalities about public or private benefits of reducing externalities.

#### Market Based Instruments:

**Price-based instruments** – are instruments that attempt to influence environmental performance by pricing negative externalities or subsidising mitigation actions. There are several variants including:

**Environmental charges** – charges with the rate related to the level of an environmental externality (e.g. discharge fees for effluent). Alternative implementations can involve charges on inputs related to an externality (a charge for vehicle registration with rate based on engine displacement as a proxy for a discharge fee).

**Incentives payments** – involves subsidising the cost of actions to mitigate an externality. Often incentive payment levels are set at fixed rates.

**Tendering** – is an alternative approach to distributing inactive payments that involves distributing funds by tender or auction. This involves those seeking incentives payments making offers describing mitigation action and cost sharing payment terms. The Government selects amongst offers based on value of mitigation per cost sharing dollar.

**Quantity based instrument** – involves setting standards for mitigation effort (e.g. emissions standards) and allowing trade among those providing mitigation (allowing individual underperformance if it is compensated by over performance elsewhere). There are two major variants:

**Tradable permits** - involves setting individual rights to input level, output level or performance standards (e.g. individuals are granted an allowable level of emissions as a number of emission permits). Individuals are then only allowed to exceed the standards if they purchase additional permits from someone who is under their allowable emissions and therefore had excess permits.

**Environmental Offsets** – environmental offsets are actions taken to meet a standard (reducing pollution or environmental impacts) at a site away from where the action causing and environmental externality occurs. The party causing the externality can either take the action themselves or pay for others to do it on their behalf.

**Market barrier elimination instruments** - focus on improving environmental outcomes by increasing consumer awareness of environmental attributes of products they may value, or removing barriers to market activity. Product labelling schemes are perhaps the most widely applied market creation MBI approach. They involve providing information about the environmental outcomes of production so that those value associated improved environmental outcomes can express their preferences through markets.

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Source: MacDonald D H, Connor J and Morrison M (2004). Market Based Instruments for Managing Water Quality in New Zealand, Policy and Economic Research Unit, CSIRO Land and Water.

## Appendix 3 Categorising the CSG discussion points on sediment approaches from CSG 9

At CSG 9 the CSG broke into groups to discuss:

1. Thinking about sediment and the approach in the Waipa Catchment Plan (voluntary, advisory, farm plan-based incentives targeted to high risk areas) and the current rules in the Waikato Regional Plan what further measures might we consider for a Plan Change, to ensure we meet any limits and targets we set for sediment? and
2. discuss approaches, with an emphasis on making sure any measures are practicable.

The notes (Facilitation session notes from CSG workshop 9 DM#3286363) from these small group discussions have been categorised into policy approaches. Some of the points raised were overarching comments that have also been recorded in Table 9. A distinction has been made between CSG’s approaches aimed at policies to change behaviour, approaches to raise revenue and approaches to share costs, recorded in Table 10 - Table 12, and some broader catchment or program concepts, shown in Table 13.

**Table 9 Overview concepts raised by the CSG from the facilitation session notes from CSG9**

	Points made by the CSG
<b>Overview concepts</b>	<ul style="list-style-type: none"> <li>• Identify source of issue/risk areas</li> <li>• Focus on high risk areas</li> <li>• How long can we continue voluntary? Need to catch tail.</li> <li>• How to do this: sell the vision, capture hearts and minds</li> <li>• Share info – “hold hands” with stakeholders</li> <li>• Better outcomes through “community ownership”</li> <li>• Generational changes in mindset take time.</li> <li>• Rules need acceptable timeframe (5? 20? years voluntary)</li> <li>• Shorter timeframe in priority areas and incentivise farmers in priority areas.</li> </ul>
<b>Other points raised</b>	<ul style="list-style-type: none"> <li>• Commercial forest vs native forest? (Vs poplars /willows)</li> <li>• Riparian planting – grasses better</li> <li>• Link private and public drainage systems</li> </ul>

**Table 10: Approaches to change behaviour raised by the CSG from Draft facilitation session notes from CSG9**

	Categorising the CSG suggested approaches	Points made by the CSG
<b>Regulation</b> Process management standards	Process management standards for: <ul style="list-style-type: none"> <li>• Cultivation</li> <li>• Control of activities on slopes &gt;15°</li> <li>• Restrict stock on land identified as land use capability class 7+</li> <li>• Crop variety (maize) restrictions on flood prone areas adjacent to the river</li> <li>• Requirement for use of direct drilling, rather than ploughing, on</li> </ul>	<ul style="list-style-type: none"> <li>• Rules/methods for <u>cultivation</u> (set-backs not the only solution).</li> <li>• <u>Slope threshold controls</u> (restrict &gt;15°)</li> <li>• Rules to restrict <u>stock on Class 7+ land</u> – retire land?</li> <li>• Should maize <u>cropping</u> be prevented in <u>flood-prone land</u> adjacent to the river – or have</li> </ul>



	<b>Categorising the CSG suggested approaches</b>	<b>Points made by the CSG</b>
	<p>flood prone areas adjacent to the river</p> <ul style="list-style-type: none"> <li>• Cultivation margins – [increase on existing requirement]</li> <li>• Setbacks of 5m</li> <li>• Some form of property-level plan for regulatory purposes (e.g. a requirement as part of a consent) to manage soil disturbance</li> <li>• Protection /conservation of wetlands by compulsory retiring of wetland areas.</li> <li>• Retiring land in high risk areas from certain farming activities.</li> <li>• Compulsory land use change on highest risk land/steep land.</li> </ul>	<p>rules requiring direct drilling (no ploughing)</p> <ul style="list-style-type: none"> <li>• Increase <u>margin</u> exclusion when <u>cultivating</u></li> <li>• Property that land conversion where soil disturbance is involved - requires a <u>plan</u> as a minimum – restricted activity?</li> <li>• Mandatory <u>setbacks</u> of 5m to minimise erosion of bank and control sediment wash down</li> <li>• More focus on wetlands – protection and restoration (conserves peat). Encourage/mandatory retirement of wetland areas?</li> <li>• Land retirement - high risk land: land optimisation e.g. bees, hunting and compensation</li> <li>• Change of landuse where risks highest. Afforestation of steep lands?</li> </ul>
<b>Regulation</b> Technology standards	<p>Technology standards for:</p> <ul style="list-style-type: none"> <li>• Roding and structures</li> <li>• Hardstands, sediment traps, earthworks designed to capture sediment runoff</li> </ul>	<ul style="list-style-type: none"> <li>• Enable creation of sediment control structures, such as hardstands, sediment traps, targeted earthworks</li> <li>• Rules to control roding and tracks to eliminate sediment runoff</li> </ul>
<b>Regulation</b> Performance standards	<p>Performance standards for:</p> <ul style="list-style-type: none"> <li>• Streams along pasture/horticulture streams have a turbidity or [Total Suspended Solids] TSS standard/clarity standard that needs to be met by landowners undertaking activities adjacent to streams.</li> </ul>	<ul style="list-style-type: none"> <li>• Able to set sediment target for farms?</li> <li>• Have a turbidity or TSS standard/clarity standard in streams along pasture/horticulture streams as there is for forestry</li> </ul>
<b>Incentives/subsidies</b>	<ul style="list-style-type: none"> <li>• Some form of incentive for works in priority areas [high risk sediment?].</li> <li>• Some form of incentive/ subsidies for catchment restoration works.</li> <li>• Some form of incentive/ subsidies for the development of forestry plans and farm plans.</li> <li>• Some form of subsidy for farm specific advice to landowners from farm advisors on plantings</li> </ul>	<ul style="list-style-type: none"> <li>• Shorter timeframe in priority areas and incentivise farmers in priority areas.</li> <li>• Voluntary levies to fund [catchment] restoration?</li> <li>• Discussion about funding equity between forestry and farming. Subsidies on farm plans...forestry plans as well.</li> <li>• Continue to incentivise via funding farm advisors, both farm plans and planting etc.</li> </ul>

	<b>Categorising the CSG suggested approaches</b>	<b>Points made by the CSG</b>
	<ul style="list-style-type: none"> <li>etc.</li> <li>Some form of incentive/ subsidy for farm plans, incentives for actions on ground (e.g. plantings).</li> <li>Some form of incentives/ subsidy to implement changes in farm layout e.g. race location/roads and tracks.</li> <li>Some form of zoning of land (voluntary) to indicate “best” use of the land (to encourage retirement of land from particular uses) and offer incentives to promote land use.</li> </ul>	<ul style="list-style-type: none"> <li>Costs/funding to implement farm layout (e.g. race location/roads and tracks) changes to minimise sediment generation.</li> <li>Land retirement - high risk land: land optimisation e.g. bees, hunting and compensation</li> </ul>
<b>Codes of Practice</b>	<ul style="list-style-type: none"> <li>Voluntary Code of Practice that set a standard for particular landowner management activities</li> <li>Compulsory Code of Practice that set a standard for particular landowner management activities and outcomes if these standards are not met.</li> </ul>	<ul style="list-style-type: none"> <li>Codes of Practice and Farm Plans</li> </ul>
<b>Farm plans</b>	<ul style="list-style-type: none"> <li>(Voluntary) Promote landowners having a farm plan that cover a range of mitigation options that contribute to improving water quality.</li> <li>(Compulsory) Requirement that landowner develop a farm plan that cover a range of mitigation options that contribute to water quality outcomes and undertaking actions in the plan (audited).</li> </ul>	<ul style="list-style-type: none"> <li>Codes of Practice and Farm Plans.</li> <li>Farm planning – consider range of options to mitigate.</li> <li>Piggy back on milk dairy sustainability plans to include other land uses (dry stock, horticulture)</li> </ul>
<b>Education</b>	<ul style="list-style-type: none"> <li>Council and/or industry bodies provision of education (e.g. on appropriate stream bank planting)</li> <li>Some form of information to indicate where to retire wetland areas (to encourage retirement of wetland areas from other uses).</li> </ul>	<ul style="list-style-type: none"> <li>Education on appropriate stream bank planting (no crack willow)</li> <li>More focus on wetlands – protection and restoration (conserves peat). Encourage/mandatory retirement of wetland areas?</li> </ul>
<b>Promotion</b>	<ul style="list-style-type: none"> <li>Promotion of community and landowner activities/ programmes to improve water quality</li> <li>Promotion of management</li> </ul>	<ul style="list-style-type: none"> <li>Publicise good news, can do stories</li> <li>Farm awards – focus on incentivising water quality improvement practices.</li> </ul>

	<b>Categorising the CSG suggested approaches</b>	<b>Points made by the CSG</b>
	<p>“good practice” that contribute to water quality outcomes – via industry, service providers, council, stakeholders etc</p> <ul style="list-style-type: none"> <li>Promote landowners undertaking activities that contribute to water quality improvement using farm awards</li> </ul>	<p>Rewards good management techniques.</p> <ul style="list-style-type: none"> <li>Encourage establishment of “collectives” to promote best practice and catchment restoration.</li> </ul>

**Table 11: Approaches to raise revenue raised by the CSG from facilitation session notes from CSG9**

	<b>Categorising the CSG suggested approaches</b>	<b>Points made by the CSG</b>
<b>Levies</b>	<ul style="list-style-type: none"> <li>Revenue raising mechanism [with contribution from the community/ industry/ stakeholder etc] to help fund private restoration works that contribute to water quality outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>Voluntary levies to fund restoration?</li> </ul>

**Table 12: Approaches to share costs raised by the CSG from facilitation session notes from CSG9**

	<b>Categorising the CSG suggested approaches</b>	<b>Points made by the CSG</b>
<b>Compensation</b>	<ul style="list-style-type: none"> <li>Compensation to share the cost of compulsory land use change that contributes to water quality outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>Land retirement - high risk land: land optimisation e.g. bees, hunting and compensation.</li> </ul>

**Table 13: Miscellaneous approaches raised by the CSG from facilitation session notes from CSG9**

	<b>Categorising the CSG suggested approaches</b>	<b>Points made by the CSG</b>
<b>Community groups</b> e.g. care groups, famer focus groups etc	<ul style="list-style-type: none"> <li>Formation of landowner groups to share ideas and promote “best” management practices</li> </ul>	<ul style="list-style-type: none"> <li>Encourage establishment of “collectives” to promote best practice and catchment restoration.</li> </ul>
<b>Integrated management</b>	<ul style="list-style-type: none"> <li>Manage the approval of timing of clearing activities to take into account broader catchment implications and contribution of activities to water quality outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Include overall planning (in sub catchments?) of forestry to manage sequence of felling and planting to minimise erosion.</li> </ul>