Intensive engagement period 2
Feedback report

October – November 2015

Healthy Rivers
PLAN FOR CHANGE

Maniapoto Māori Trust Board
Raukawa Charitable Trust
Te Arawa River Iwi Trust

Wai Ora
HE RAUTAKI WHAKAPAIPAI

Tūwharetoa Māori Trust Board
Waikato Raupatu River Trust
Waikato Regional Council

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1 Report summary

This report presents the results of the Collaborative Stakeholder Group's (CSG) latest round of community engagement held in October and November 2015.

In total, over 1000 people gave the CSG feedback on a wide variety of issues related to water quality policies and solutions. The questions and discussions focused on five key areas:

- the long term vision for the Waikato and Waipa river catchments to achieve the *Vision and Strategy for the Waikato River*
- current thinking on limiting nitrogen, phosphorus, *E.coli* and sediment entering water
- what timeframes could look like for achieving the limits under different water quality scenarios
- the potential economic, social, environmental and cultural impacts under a range of water quality scenarios
- the policy options being explored for achieving limits and targets

Some 235 stakeholders attended a day-long workshop at Mystery Creek (near Hamilton), while a total of 245 people came to community workshops in Otorohanga, Reporoa, Hamilton, Tokoroa and Tuakau. Another 561 people responded to an online survey. Members of the CSG also held workshops within their own sectors over this period.

The CSG asked people for feedback on their ideas for achieving the water quality aspects of the Visions and Strategy in stages, within set periods of time. Most people (45 per cent) thought the CSG's proposed stages and timeframes were 'about right', while 36 per cent thought they were slow and 19 per cent thought they were fast.

The CSG also asked people if they were comfortable with the idea of using tailored property plans, along with catchment wide rules, to make reductions in contaminant losses over time. Most people (83 per cent) were comfortable with this and 70 per cent of people supported property plans being compulsory for all properties over 4ha.

The CSG sought feedback on their ideas for catchment wide rules, which included:

- stock exclusion – excluding all cattle and deer from river and lake beds. Most people (76 per cent) supported this type of rule.
- setbacks – a standard 5m buffer from waterways, in which certain activities would not be allowed to occur. Forty per cent of people said setback widths should be left up to each property plan to determine (and therefore) should not be a catchment wide rule.
- intensification – an interim rule (until property level limits are introduced) requiring consent to increase nitrogen loss to more than 10 per cent of benchmarked figures. Most people (74 per cent) supported this idea.

Overall most people (75 per cent) said they were comfortable with the set of catchment wide rules the CSG was considering.

These and other key results from the engagement period are shown in Table 1 (over page). While Table 1 shows the results of quantitative questions the engagement period also gathered several thousand responses to open ended questions. These responses cannot be summarised in percentages but rather have been categorised into themes to assist the CSG to use these written responses in their decision making process. These are presented by individual question in the body of this report.

Table 1: Key results from community engagement	
44%	said the **proposed stages and timeframes** were about right (37% said it was somewhat slow or too slow and 19% said it was somewhat fast or too fast)
52%	were somewhat or very comfortable with the **limits for the Upper Waikato** catchment (31% neutral and 17% somewhat or very uncomfortable)
39%	were somewhat or very comfortable with the **limits for the Middle Waikato** catchment (38% neutral and 23% somewhat or very uncomfortable)
34%	were somewhat or very comfortable with the **limits for the Lower Waikato** catchment (33% neutral and 33% somewhat or very uncomfortable)
37%	were somewhat or very comfortable with the **limits for the Waipa** catchment (33% neutral and 30% somewhat or very uncomfortable)
83%	were comfortable with the policy approach to use **tailored property plans** to make reductions in contaminant losses over time
70%	thought **property plans** should be compulsory for all properties over 4ha
76%	said there should be a catchment wide **rule to exclude stock from waterways** (of these about half thought it should be all waterways and half thought only for perennial waterways)
40%	said it should be left up to each property plan to determine **setback width from streams** while 38% think there should be different setback widths specified for different land uses or stream sizes. The other 22% thought there should be a 5 metre setback rule for all perennial waterways across the range of land uses
74%	supported the idea of an interim catchment wide rule to limit increased contaminant losses due to **intensification** while the plan change is being implemented
87%	thought a **property plan** should be able to be used to mitigate contaminant discharges to achieve compliance with a rule
75%	signalled general support for the set of **catchment wide rules** being considered
67%	either somewhat or strongly supported the idea of a **catchment wide rate to fund actions to improve water quality**. 10% were neutral and 22% did not support the proposal
87%	supported the idea that the CSG should **prioritise sub-catchments** (for actions to improve water quality).

2 About this report

The report provides stakeholders and the Collaborative Stakeholder Group (CSG) with feedback from the community engagement period in October and November 2015.

The focus over the three week engagement period was on connecting with stakeholders via three methods: a facilitated workshop at Mystery Creek Events Centre, five community workshops around the Waikato and Waipa river catchments and an online survey.

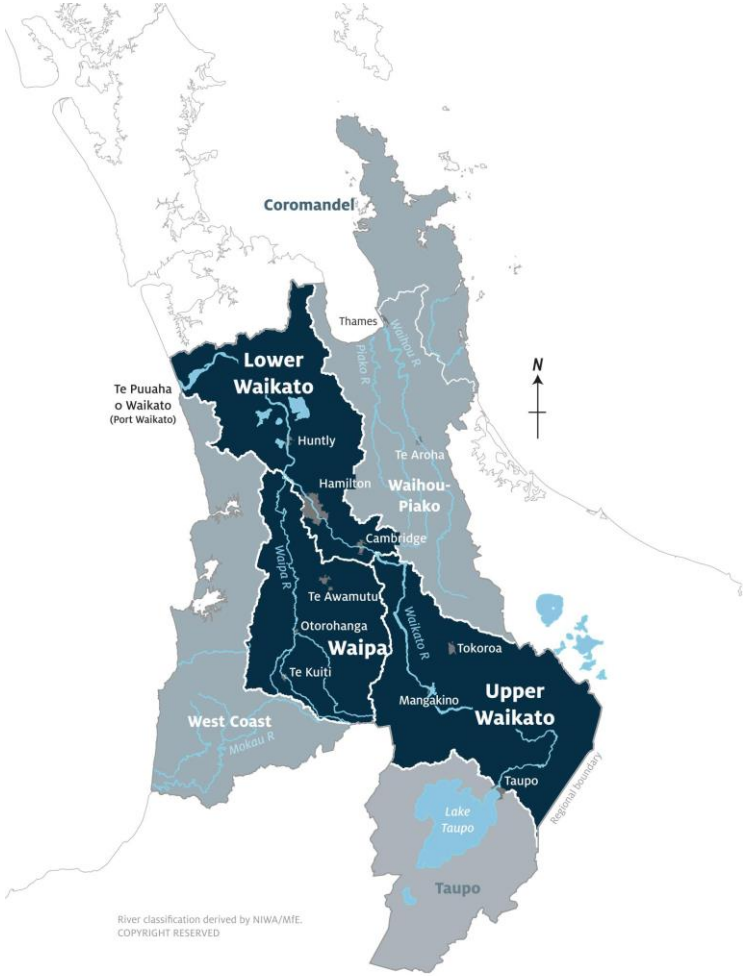
The engagement methods focused on water quality policies and solutions and were used to update people on the project and involve them in discussion with the CSG on five key areas:

1. the CSG's long term vision for the Waikato and Waipa river catchments (restoring and protecting the water quality in the rivers, to achieve the community's values and the *Vision and Strategy for the Waikato River*)
2. the CSG's current thinking about limits for nitrogen, phosphorus, *E.coli* and sediment, to achieve community values
3. what timeframes (or 'targets') could look like for achieving the limits under different water quality scenarios
4. potential economic, social, environmental and cultural impacts of limits under a range of water quality scenarios
5. policy options (regulatory and non-regulatory) being explored for achieving limits and targets

Each of these five key areas provided information and posed questions. A subset of questions was used at the community workshops due to the shorter time available, with community workshop participants having the option of completing the full set via the online survey. This report presents community feedback by question posed, noting the actual question wording and in what forum the question was asked.

Many of the questions asked were open ended. Responses to these questions have been themed. The aim is to present the information for discussion rather than provide in depth analysis. There is also a glossary containing definitions of key terms and acronyms.

Map 1: Waikato and Waipa river catchments



3 The Healthy Rivers/Wai Ora project

The Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai project is working with stakeholders to develop changes to the Waikato Regional Plan to help restore and protect the health of the Waikato and Waipa rivers.

Once developed, the plan change will help, over time, to reduce sediment, bacteria and nutrients (nitrogen and phosphorus) entering water bodies (including groundwater) in the Waikato and Waipa River catchments, an area of 1.1 million hectares. Waikato and Waipa River iwi and Waikato Regional Council are partners on this project, as set out in settlement and co-management legislation for the Waikato and Waipa rivers. The project partners are Maniapoto Māori Trust Board, Raukawa Charitable Trust, Tūwharetoa Māori Trust Board, Te Arawa River Iwi Trust and Waikato Raupatu River Trust.

Why a plan change is needed

Developing a plan change:

- is legally required by the *Vision and Strategy for the Waikato River/Te Ture Whaimana o Te Awa o Waikato* and the Government's *National Policy Statement for Freshwater Management 2014*
- will tackle issues that are apparent in monitoring of the rivers, and prevent them becoming more difficult and expensive to fix
- will provide greater protection for fresh water – reviews of current Waikato Regional Council policy to protect fresh water state more protection is needed
- will help meet the expectations the Waikato and Waipa communities, iwi and industry hold for fresh water and the rivers.

Farmers, River iwi, industry, environmental groups, local government and other stakeholders have already done much to address water quality, and are continuing to do so.

What the plan change will cover

It is too soon to say exactly what the detail of the proposed plan change will be. It is still being developed with stakeholders and the CSG are considering this feedback from community engagement in November 2015. However, the plan change will set objectives, limits and targets for water quality in all water bodies. A limit defines the load to be placed on water quality from inputs like nutrients. A target simply puts a timeframe on achieving a limit. The plan change might also include:

- limits and targets on contaminants such as bacteria and sediment entering water directly or via land
- property level limits and targets for nitrogen and phosphorus, either as inputs or outputs
- specific outcomes for ecological health and recreation, fisheries and mahinga kai (food gathering)
- methods such as riparian fencing and planting, to help achieve limits and targets for sediment and bacteria, and ecological health and other outcomes.

Collaborating with stakeholders

Collaboration with stakeholders and the community is key in developing the plan change and achieving lasting outcomes. The 24 member Collaborative Stakeholder Group (CSG) is the central channel for stakeholder and broader community involvement in the project. This group will:

- actively involve communities affected and understand their views
- review and deliberate on technical material on the environmental, social, cultural and economic complexities of the project
- recommend solutions to decision makers.

The CSG's first two day workshop was in March 2014 and the group continues to meet regularly.

CSG's focus statement

"To come up with proposed limits, timelines and practical options for managing contaminants and discharges into the Waikato and Waipa catchments to ensure our rivers and lakes are safe to swim in and take food from, support healthy biodiversity and provide for social, economic and cultural wellbeing"

Purpose of the Collaborative Stakeholder Group (CSG)

The purpose of the CSG is to:

- bring stakeholders and the community together early to seek a common way forward
- act as the central channel for stakeholder and community involvement in the plan change process
- intensively review and understand the technical, social, cultural and economic complexity of the project
- form recommendations to decision makers.

Figure 1: Membership of the CSG

Collaborative Stakeholder Group (CSG) members		Delegate
Community (People living in the Waikato or Waipa river catchments)	Jason Sebestian, Brian Hanna Gayle Leaf, Evelyn Forrest Dr Gwyneth Verkerk, Liz Stolwyk, Matt Makgill	No delegates
Dairy	Dr Rick Pridmore George Moss	Charlotte Rutherford
Horticulture	Chris Keenan	Garth Wilcox
Rural advocacy	James Houghton	Sally Millar
Energy	Stephen Colson	Rosemary Dixon
Industry	Dr Ruth Bartlett	Elizabeth Aveyard
Sheep and beef	James Bailey	Graeme Gleeson
Environment/NGOs	Al Fleming Michelle Archer	Jim Crawford Dr David Campbell
Local government	Sally Davis	Tim Harty
Tourism and recreation	Alastair Calder	Don Scarlet
Forestry	Patricia Fordyce	Sally Strang
Māori interests	Alamoti Te Pou Weo Maag, Gina Rangi	- Clinton Hemana -
Water supply takes	Garry Maskill	Ilze Gotelli
Rural professionals	Phil Journeaux	-

4 Summary of engagement events

The second Healthy Rivers Wai Ora community engagement period for 2015 ran from 27 October to 13 November. The focus over the three week period was on consulting with stakeholders via three main methods: an open stakeholder workshop at Mystery Creek Events Centre, five community workshops around the catchment and an online survey.

The three engagement methods focused on water quality policies and solutions, and were used to update stakeholders on the project and involve them in discussion with the CSG on five key areas:

- their long term vision for the Waikato and Waipa river catchments (restoring and protecting the water quality in the rivers, to achieve the community's values and the *Vision and Strategy for the Waikato River*)
- their thinking on limiting nitrogen, phosphorus, E.coli and sediment entering water, to achieve community values
- what timeframes (or 'targets') could look like for achieving the limits under different water quality scenarios
- potential economic, social, environmental and cultural impacts under a range of water quality scenarios
- policy options (regulatory and non-regulatory) being explored for achieving limits and targets

Table 2: Number attending each engagement event

Engagement event	Attendance / responses
Stakeholder workshop (Mystery Creek)	235
Lower Waikato community workshop (Tuakau)	36
Middle Waikato community workshop (Hamilton)	59
Upper Waikato community workshop (Tokoroa)	55
Upper Waikato community workshop (Reporoa)	44
Waipa community workshop (Otorohanga)	49
Online survey	561
Total*	1037*

* the total may include some people attending more than one engagement event

Engagement events

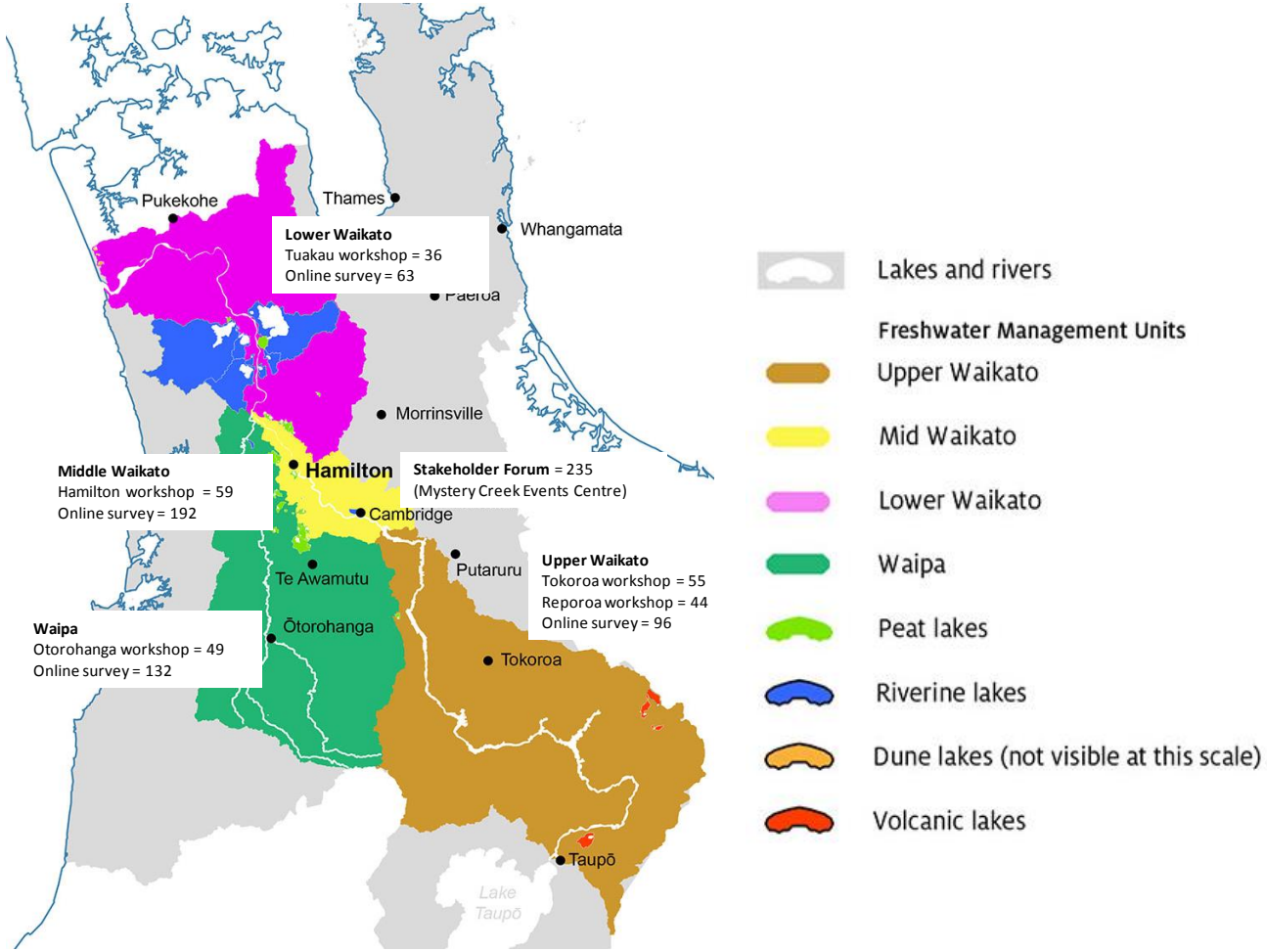
The CSG wanted to ensure as many stakeholders as possible could have their say over the engagement period.

Engagement opportunities were publicised in a variety of ways, including via:

- the Healthy Rivers Wai Ora online newsletter (800+ subscribers)
- email from CSG members to their respective sector networks
- the Healthy Rivers Wai Ora committee
- newspaper advertisements around the catchments in both regional and local community papers
- targeted online advertising
- Waikato Regional Council's Facebook page
- Waikato Regional Council's website
- various sector newsletters and updates

Map 2 shows a summary of the numbers attending events or responding to the survey based on geographic location, and shown by Freshwater Management Unit (FMU). Those answering the online survey have been placed into the FMU which they identified they live in (note that 40 people identified that they lived in more than one FMU).

Map 2: CSG stakeholder engagement, October-November 2015



What is an FMU?

FMU stands for Freshwater Management Unit. FMUs are areas that the catchment is divided into for setting freshwater objectives and limits and for freshwater accounting and management purposes.

Under the *National Policy Statement for Freshwater Management* (NPS-FM) identifying FMUs is a requirement. For each FMU the plan change must:

- set objectives and limits for water quality
- identify values
- describe current state and anticipated future state
- establish and operate a freshwater accounting system.

Beyond these requirements nothing in the NPS-FM restricts having the same objective(s) for different FMUs. Also policies and methods may differ between FMUs and for different areas within an FMU.

Asked as part of the:

- online survey

5 Which Freshwater Management Unit (FMU) area do you live in?

Online survey respondents were asked two questions. Firstly, “Which proposed FMU area do you live in?”. and secondly to “Identify the FMUs you have an individual or organisational interest in”.

These questions were asked to get a sense of the geographical spread of those responding to the anonymous online survey, in terms of where they reside and where their interests might lie.

Multiple responses were allowed for both questions, for example, in the first question there may have been respondents with a farm crossing two FMUs or people with multiple residences in different FMUs. Results are shown in Table 3. In summary:

- 518 people provided 568 responses to “Which proposed FMU area do you live in?”.
- some 40 people indicated they lived in more than one of the FMU areas, while 43 respondents skipped this question.

Table 3: FMU of residence and FMUs of interest to online survey respondents

Proposed FMU area	I live in this FMU	I have a personal or organisational interest in....							
		Upper Waikato	Middle Waikato	Lower Waikato	Waipa	Dune lakes	Peat lakes	Riverine lakes	Volcanic lakes
Upper Waikato	96	95	20	8	15	4	4	3	8
Middle Waikato	192	75	167	76	83	31	51	33	38
Lower Waikato	63	12	24	58	20	6	10	9	7
Waipa	132	26	40	26	126	8	15	7	8
Riverine lakes	9	4	3	4	4	4	3	5	3
I do not live in any of the FMUs	72	44	41	34	38	24	27	27	28
I can’t tell from the map	4	2	1	2	1	1	2	2	2
Total	*568*	*258*	*296*	*208*	*287*	*78*	*112*	*86*	*94*

* 40 respondents indicated they lived in more than one of the proposed FMUs.

6 What do you think of our proposed stages and timeframes?

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshops (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato community workshop (Tuakau)
- Waipa community workshop (Otorohanga)
- online survey

This question was aimed at testing the CSG's proposed stages and timeframes. This question related to the third key area that the Collaborative Stakeholder Group (CSG) wanted to have discussions and get feedback on: "What timeframes (or 'targets') could look like for achieving the limits under different water quality scenarios".

This question was asked across all forums. In total, 839 people provided a response. The full text of this question was: "What do you think of our proposed stages and timeframes, i.e. 10% of the way towards improving water quality to a level that is consistent with the *Vision and Strategy* in 10 years, 25% of the way in 20 years, 50% of the way in 60 years and 100% of the way in 80 years?". This question had a Likert scale response ranging from "too slow" to "too fast" followed by a comment box.

Some people chose to only answer either the Likert scale or provide a comment; others answered both. The 450 written comments in relation to this question are themed in Table 5. Table 4 shows the response to the Likert scale part of the question. There were 796 responses to the Likert scale. A weighted average column (where "too slow" is '1' and "somewhat slow" is '2' etc) has been included for comparison.

Table 4: Level of comfort with proposed stages and timeframes

Event	Level of comfort						
	Too slow	**Somewhat slow**	**About right**	**Somewhat fast**	**Too fast**	**Total**	***Weighted average***
Stakeholder workshop	17 (9%)	26 (14%)	92 (51%)	38 (21%)	7 (4%)	180	***2.96***
Tokoroa community workshop	1 (3%)	5 (14%)	18 (50%)	7 (19%)	5 (14%)	36	***3.28***
Reporoa community workshop	1 (3%)	5 (15%)	12 (35%)	13 (38%)	3 (9%)	34	***3.44***
Hamilton community workshop	7 (15%)	14 (30%)	23 (50%)	1 (2%)	1 (2%)	46	***2.46***
Tuakau community workshop	2 (7%)	4 (13%)	21 (70%)	2 (7%)	1 (3%)	30	***2.87***
Otorohanga community workshop	4 (12%)	3 (9%)	22 (65%)	2 (6%)	3 (9%)	34	***2.91***
Online survey	100 (24%)	98 (23%)	155 (37%)	47 (11%)	21 (5%)	421	***2.50***
Total	**132 (17%)**	**155 (20%)**	**343 (44%)**	**110 (14%)**	**41 (5%)**	**781**	***2.71***

Figure 1: Level of comfort with proposed stages and timeframes

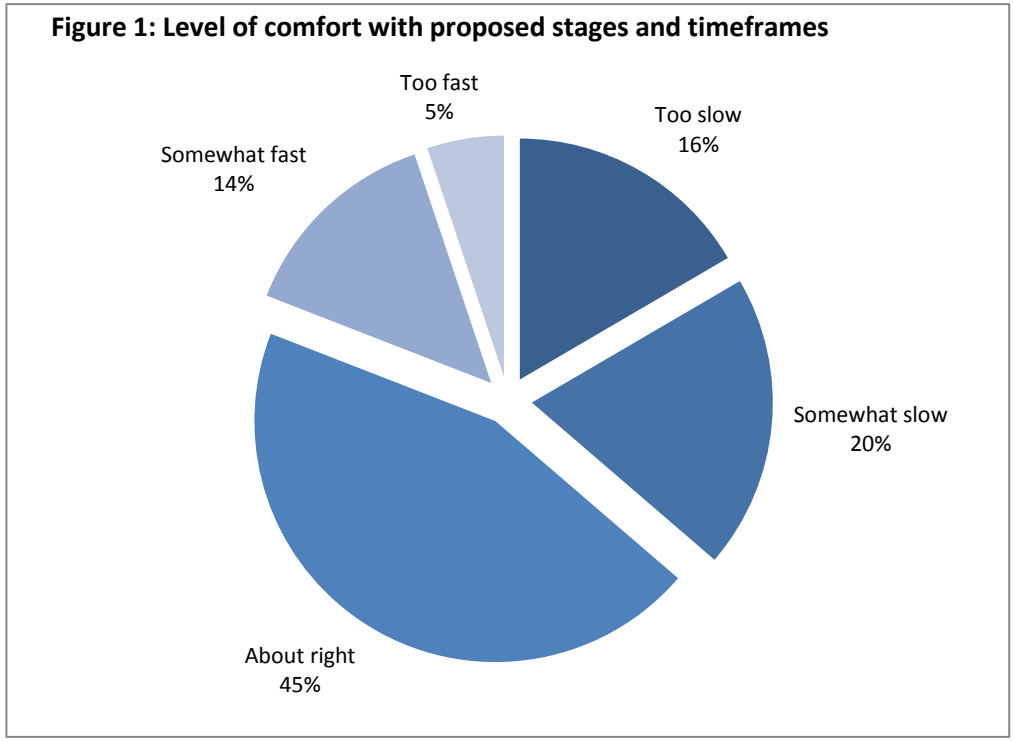


Table 5: Themed comments regarding the proposed stages and timeframes

Emerging themes	Theme counts							
	Stakeholder workshop	Online survey	Hamilton workshop	Otorohanga workshop	Reporoa workshop	Tokoroa workshop	Tuakau workshop	Total
Comment on timeframes	**91**	**68**	**29**	**13**	**11**	**11**	**11**	**234**
Too slow, timeframe too long	12	33	17	2	1	3	2	70
About right/appropriate/realistic	20	9	4	2	2	2	6	45
Timeframes not achievable	22	6	1	4	7	-	-	40
Hard to see/judge more than 10 years out	14	5	1	1	-	3	2	26
Emphasis on early years/achieve more sooner	11	2	3	1	1	1	1	20
Timeframes will need revaluating throughout	6	1	2	3	-	-	-	12
Requires practical solution	6	3	-	-	-	1	-	10
Start now	-	4	1	-	-	1	-	6
Forum has been too slow to respond	-	5	-	-	-	-	-	5
Comment on factors that will affect ability to achieve timeframes	**34**	**29**	**13**	**7**	**9**	**7**	**6**	**105**
Ability to achieve will depend on the cost to the property owners	8	12	5	3	4	1	2	35
Uptake will depend on technology that becomes available	13	3	3	1	2	2	3	27
Requires buy in from the community/buy in will affect uptake	6	5	2	1	-	2	-	16
Needs support from regional and central governments	2	4	1	2	1	-	-	10
Ability to achieve target will vary by area	2	1	-	-	-	2	1	6
Climate change will affect ability to achieve target	3	-	2	-	1	-	-	6
Will depend on 'unknown' variables	-	4	-	-	1	-	-	5

Table 5: Emerging themes continued...	Theme counts							
	Stakeholder workshop	Online survey	Hamilton workshop	Otorohanga workshop	Reporoa workshop	Tokoroa workshop	Tuakau workshop	Total
Comment on implementation	**31**	**24**	**14**	**-**	**4**	**3**	**3**	**79**
Need to balance environmental requirements and economic cost to achieving timeframes	14	14	7	-	4	2	2	43
Requires education to assist with uptake	6	3	1	-	-	-	1	11
Needs to start slowly/soft approach	5	4	1	-	-	1	-	11
Needs flexibility	4	2	3	-	-	-	-	9
Assist uptake with technology	2	-	1	-	-	-	-	3
Assist uptake with rates	-	1	1	-	-	-	-	2
Comment regarding information needs to assess timings	**16**	**7**	**2**	**-**	**7**	**5**	**3**	**40**
Need more information to comment	8	4	-	-	4	2	2	20
Questions how % achieved will be measured	6	2	2	-	1	3	1	15
More information about costs involved	2	1	-	-	2	-	-	5
Comment regarding questionable assumptions	**12**	**18**	**2**	**-**	**1**	**3**	**1**	**37**
Question the model inputs and outputs	9	14	1	-	1	3	-	28
Question the assumptions in place to achieve timeframe	3	4	1	-	-	-	1	9
General negative comment	**11**	**12**	**1**	**1**	**-**	**3**	**1**	**29**
Vision and Strategy is not achievable generally	10	7	1	1	-	2	1	22
General negative comment	-	5	-	-	-	1	-	6
Timings are retrospective/shouldn't be as bad as it is now	1	-	-	-	-	-	-	1
Totals	**195**	**158**	**61**	**21**	**32**	**32**	**25**	**524**

7 How comfortable are you that we have set the right limits and targets for each FMU?

Asked as part of the:

- stakeholder workshop

This question was aimed at testing the CSG's draft limits and targets. This question related to the second key area that the CSG wanted to get feedback on: "the Collaborative Stakeholder Group's current thinking about limits for nitrogen, phosphorus, *E.coli* and sediment, to achieve community values".

This question was asked at only the stakeholder workshop and 197 attendees provided a response.

The full text of this question was: "How comfortable are you that we have set the right water quality limits and targets for each of the following Freshwater Management Units (FMUs)?". This question had a Likert scale response for each of the river FMUs, as well as a follow up question with a comment box: "Do you have any comments on the proposed limits and targets for any of the river FMUs or comments relating to limits and targets for the lakes FMUs?"

Some attendees chose to answer only the Likert scale or the comment question while others answered both. In total 116 comments were gathered. These comments are themed in Table 7. Table 6 shows the response to the Likert scale part of the question. There were 182 responses to the Likert scale for the Upper Waikato, Middle Waikato and Lower Waikato FMUs, with 181 responses to the Waipa FMU Likert scale. A weighted average column (where "Very comfortable" is '1' and "Somewhat comfortable" is '2' etc) is shown for comparison purposes. In addition, figures 2 to 5 show the percent results by FMU.

Table 6: Level of comfort with limits in each FMU

Freshwater Management Unit (FMU)	**Level of comfort**						
	Very comfortable	**Somewhat comfortable**	**Neutral**	**Somewhat uncomfortable**	**Very uncomfortable**	**Total**	***Weighted average***
Upper Waikato	31 (17%)	64 (35%)	56 (31%)	23 (13%)	8 (4%)	182	***2.52***
Middle Waikato	17 (9%)	55 (30%)	68 (38%)	35 (19%)	7 (4%)	182	***2.78***
Lower Waikato	13 (7%)	50 (27%)	60 (33%)	47 (26%)	12 (7%)	182	***2.97***
Waipa	14 (8%)	53 (29%)	60 (33%)	42 (23%)	12 (7%)	181	***2.92***
Total	**75**	**222**	**244**	**147**	**39**	**545**	***2.80***

Figure 2: Level of comfort with limits Upper Waikato

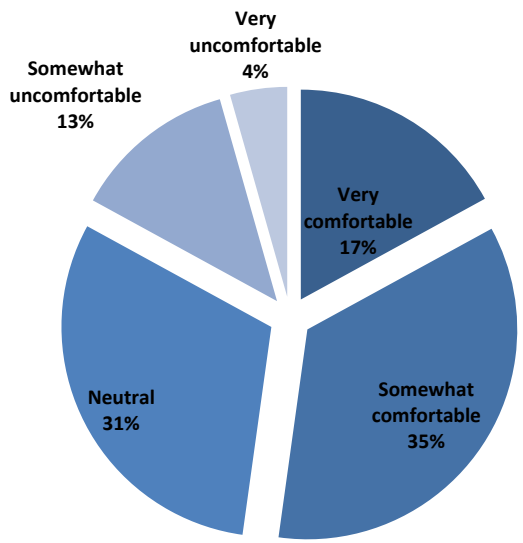


Figure 3: Level of comfort with limits Middle Waikato

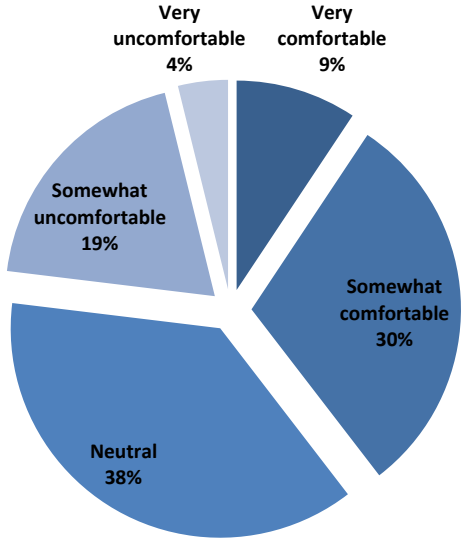


Figure 4: Level of comfort with limits Lower Waikato

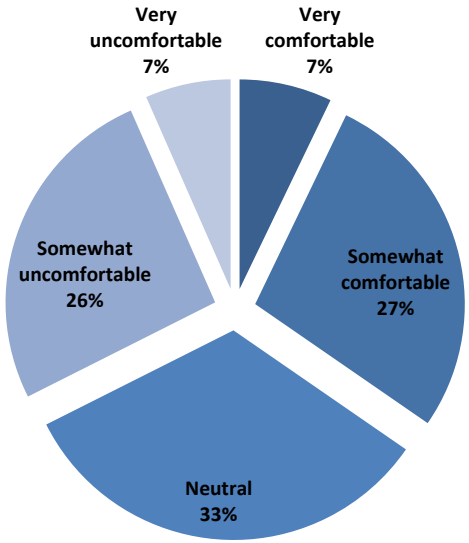


Figure 5: Level of comfort with limits Waipa

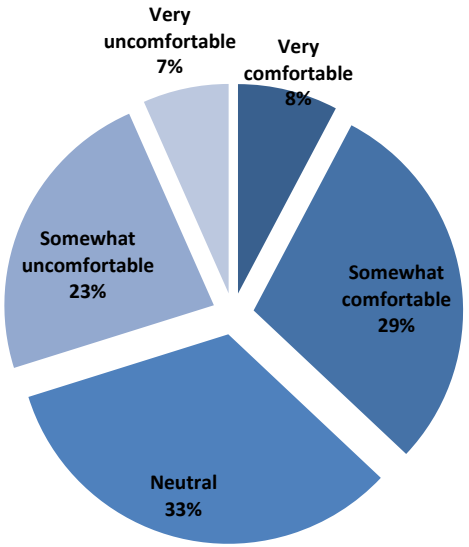


Table 7: Themed statements regarding the proposed limits and targets for any of the river FMUs or comments relating to limits and targets for the lakes FMUs.

Emerging theme	Theme counts
	Stakeholder workshop
Comment on limits	**86**
Standards should vary for areas not be a blanket approach/subcatchment standards needed	24
Seem ambitious/too high/hard to achieve/aspirational	15
Consideration needs to be given to variations of different areas, e.g. soil, geology	15
Need to consider standards/measures that judge compliance	12
Need flexibility to change	6
Seems correct	4
Too low for a given area	4
Levels need to align with the Vision and Strategy objectives	4
Should be at an individual level	2
Comment on science inputs	**24**
Negative comment/question on calculation/variables that affect levels	8
Positive comment regarding process	6
Need to see science to verify/back up claims	4
Question regarding monitoring implementation	4
Water quality will change naturally	2
Comment on information needs	**21**
Need more information	12
I am not clear on the actual limits/hard to tell	9
Comment on community buy in	**12**
Targets need to balance environmental requirements with economic and social needs/cost to implement	9
Community need to buy in to targets	3
Totals	**143**

8 What degree of influence should the ability of people to pay and/or social disruption have on the pace of change?

Asked as part of the:

- stakeholder workshop
- online survey

Two questions were asked of those attending the stakeholder workshop or responding to the online survey. The first was: “What degree of influence should the ability of people (urban and rural) to pay for actions have on the pace of change, e.g. wastewater treatment plant upgrades, fencing of streams?”. The second question was: “What influence should the possibility of social disruption have on the pace of change, e.g. reduced number of community facilities, less local employment opportunities?”. Both questions were Likert scale responses with 615 responses for both questions. These are shown in tables 8 and 9. A weighted average column (where “Strong influence” is ‘1’ and “Moderate influence” is ‘2’ etc) is shown for comparison purposes

Table 8: Degree of influence that the ability of people to pay for actions should have on the pace of change

What degree of influence should the ability of people (urban and rural) to pay for actions have on the pace of change?						
	Strong influence	**Moderate influence**	**Weak influence**	**No influence**	**Weighted average**	**Total**
Online Survey	130 (31%)	193 (46%)	75 (18%)	24 (5%)	1.98	**422**
Stakeholder workshop	65 (34%)	93 (48%)	28 (14%)	7 (4%)	1.88	**193**
Total	**195 (32%)**	**286 (47%)**	**103 (17%)**	**31 (5%)**		**615**

Table 9: Influence the possibility of social disruption should have on the pace of change

What influence should the possibility of social disruption have on the pace of change?						
	Strong influence	**Moderate influence**	**Weak influence**	**No influence**	**Weighted average**	**Total**
Online Survey	110 (26%)	176 (42%)	97 (23%)	38 (9%)	2.15	**421**
Stakeholder workshop	75 (39%)	92 (47%)	24 (12%)	3 (2%)	1.77	**194**
Total	**185 (30%)**	**268 (44%)**	**121 (20%)**	**41 (7%)**		**615**

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshops (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato community workshop (Tuakau)
- Waipa community workshop (Otorohanga)
- online survey

9 Are you comfortable with the approach to use tailored property plans?

The full question asked was: “Are you comfortable with the approach to use tailored property plans (along with catchment wide rules) to make reductions in contaminant losses over time”? This question was asked across all forums, gathering in total 752 responses.

Overall, 83 per cent of people answering this question responded ‘yes’. Table 10 shows there was some difference in response between forums. The range was from 78 per cent ‘yes’ in the online survey to 92 per cent at the Hamilton community workshop. The two community workshops in the Upper Waikato FMU (Tokoroa and Reporoa) recorded lower agreement responses in general than at other community workshops. Part of this could be due to the format of the stakeholder workshop and community workshops which allowed table discussion. Those responding to the online survey did not have that opportunity and were provided with text information to assist their thinking.

Table 10: Are you comfortable with the approach to use tailored property plans to make reductions in contaminant losses over time?

Are you comfortable with the approach to use tailored property plans?	**Yes**	**No**	**Total**
Online survey	294 (78%)	85 (22%)	**379**
Stakeholder workshop	156 (87%)	23 (13%)	**179**
Tokoroa community workshop	34 (85%)	6 (15%)	**40**
Reporoa community workshop	34 (83%)	7 (17%)	**41**
Hamilton community workshop	45 (92%)	4 (8%)	**49**
Tuakau community workshop	27 (90%)	3 (10%)	**30**
Otorohanga community workshop	31 (91%)	3 (9%)	**34**
Total	**621 (83%)**	**131 (17%)**	**752**

Table 11: Sector responses: Are you comfortable with the approach to use tailored property plans?

Are you comfortable with the approach to use tailored property plans?	Yes	No	Total
Arable	29 (94%)	2 (6%)	31
Central government and health	33 (85%)	6 (15%)	39
Commercial fishing	5 (100%)	-	5
Community	168 (86%)	28 (14%)	196
Dairy	288 (83%)	57 (17%)	345
Energy	14 (74%)	5 (26%)	19
Environment/NGOs	86 (84%)	17 (16%)	103
Fertiliser	39 (89%)	5 (11%)	44
Forestry	53 (84%)	10 (16%)	63
Horticulture	32 (84%)	6 (16%)	38
Industry	35 (81%)	8 (19%)	43
Irrigators	20 (87%)	3 (13%)	23
Local government	84 (83%)	17 (17%)	101
Māori interests	50 (83%)	10 (17%)	60
Rural advocacy	39 (81%)	9 (19%)	48
Rural professionals	92 (90%)	10 (10%)	102
Sheep and beef	121 (83%)	24 (17%)	145
Tourism and recreation	43 (81%)	10 (19%)	53
Water supply takes	38 (83%)	8 (17%)	46
Other (incl. education, grazing, student, bee industry, consultant, planner, research, waste water, construction, engineering etc.)	57 (84%)	11 (16%)	68

9.1 What assurance would you need that a property plan is appropriate and actions will take place over time?

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshops (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato workshop (Tuakau)
- Waipa community workshop (Otorohanga)
- online survey

The question asked across all forums was: "If every property was required to have a property plan, what assurance would you need that this property plan is appropriate and actions on that property will take place over time?". Some stakeholders provided an answer to the question while others made more general remarks about tailored property plans. Responses have been themed and counts are shown by workshop event. Many of the 256 written comments had multiple themes (resulting in the total of 553 comments).

Table 12: Themed statements on assurances needed that the property plan is appropriate and actions on that property will take place over time

Emerging theme	Theme counts							
	Stakeholder workshop	Online survey	Hamilton workshop	Otorohanga workshop	Reporoa workshop	Tokoroa workshop	Tuakau workshop	Totals
Comment on plan design	**76**	**111**	**18**	**6**	**16**	**15**	**11**	**253**
Needs to be achievable/not onerous or costly	19	38	1	1	7	2	2	70
Needs to consider individual land use for each property	16	30	7	2	5	4	5	69
Needs to have clear method for measuring compliance/good data/robust science to support it	20	18	6	1	1	4	3	53
Needs independent input into plan development	13	14	4	2	1	2	1	37
Needs to be flexible	8	11	-	-	2	3	-	24
Comment on plan implementation	**27**	**61**	**14**	**10**	**8**	**6**	**5**	**131**
Property owner needs to own the plan/be consulted	6	14	7	5	0	1	1	34
Who pays for this?	9	12	1	4	3	-	1	30
Plan needs to be practical to implement	4	14	2	1	3	1	1	26
Property owner needs to be given assistance to develop and implement the plan/education	3	10	2	-	1	-	2	18
Needs to have fair implementation/not be too heavy handed	4	8	-	-	1	2	-	15
Consideration of the impact of urban activities on water quality	1	3	2	-	-	2	-	8
Comment on enforcement/ roll out of plan	**31**	**55**	**4**	**1**	**1**	**5**	**3**	**100**
Council will need to be involved in some capacity	20	26	-	-	-	1	1	48
Question the resources available to implement the plan	10	12	4	-	-	2	1	29
Disagree with property plan generally	1	17	-	1	1	2	1	23
Comment on industry role	**28**	**21**	**5**	**4**	**6**	**2**	**3**	**69**
Needs to be fair and equitable for all	14	11	4	3	4	-	2	38
Should be industry led	14	10	1	1	2	2	1	31
Totals	**161**	**248**	**41**	**21**	**31**	**28**	**22**	**553**

9.2 Should property plans be compulsory for all properties over 4ha?

Asked as part of the:

- stakeholder workshop
- online survey

The question asked was: “Should property plans be compulsory for all properties over 4ha?”. It was asked of stakeholders at the stakeholder workshop and of those responding via the online survey. This general topic was also covered during discussions at the community workshops but a specific question was not asked of those attending.

In total 546 responses were gathered with 379 (69 per cent) via the online survey and the remaining 167 (31 per cent) from the stakeholder workshop. Table 13 shows the headline results. Overall 70 per cent thought that property plans should be compulsory for all properties over 4ha.

Table 14 shows the results by the sector(s) stakeholders indicated they were affiliated with. As many stakeholders indicated being part of more than one sector, overall totals are not given in the table.

Table 13: Should property plans be compulsory for all properties over 4ha?

Should property plans be compulsory for all properties over 4ha?	**Yes**	**No**	**Total**
Online survey	254 (67%)	125 (33%)	**379**
Stakeholder workshop	127 (76%)	40 (24%)	**167**
Total	**381 (70%)**	**165 (30%)**	**546**

Table 14: Sector responses: should property plans be compulsory for all properties over 4ha?

Should property plans be compulsory for all properties over 4ha?	Yes	No	Total
Arable	19 (68%)	9 (32%)	28
Central govt and health	28 (80%)	7 (20%)	35
Commercial fishing	4 (80%)	1 (20%)	5
Community	98 (71%)	41 (29%)	139
Dairy	165 (66%)	85 (34%)	250
Energy	12 (80%)	3 (20%)	15
Environment/NGOs	54 (72%)	21 (28%)	75
Fertiliser	21 (60%)	14 (40%)	35
Forestry	31 (70%)	13 (30%)	44
Horticulture	20 (67%)	10 (33%)	30
Industry	19 (58%)	14 (42%)	33
Irrigators	10 (59%)	7 (41%)	17
Local government	58 (75%)	19 (25%)	77
Māori interests	32 (78%)	9 (22%)	41
Rural advocacy	24 (59%)	17 (41%)	41
Rural professionals	47 (65%)	25 (35%)	72
Sheep and beef	59 (61%)	38 (39%)	97
Tourism and recreation	29 (90%)	3 (10%)	32
Water supply takes	21 (66%)	11 (34%)	32
Other (inc education, grazing, student, bee industry, consultant, planner, research, waste water, construction, engineering etc)	38 (67%)	13 (33%)	57

9.3 If property plans should be compulsory, by when should every property have a plan in place?

Asked as part of the:

- stakeholder workshop
- online survey

This question followed "should property plans be compulsory for all properties over 4ha"? It was asked of stakeholders attending the stakeholder workshop and of those responding to the online survey. The exact question asked was: "if property plans should be compulsory, by when should every property have a plan in place"? In total there were 405 responses (250 from the online survey and 155 from the workshop) and the breakdown of responses are shown in Table 15. Response by sector affiliation is shown in Table 16. As many stakeholders indicated being part of more than one sector, overall totals are not given in the table.

Table 15: By when should every property have a plan in place?

If so, by when should every property have a plan in place	Within 2 years	Within 5 years	Within 10 years	Within 20 years	Longer than 20 years	Total answering question
Online survey	68 (27%)	110 (44%)	59 (24%)	7 (3%)	6 (3%)	**250**
Stakeholder workshop	22 (14%)	75 (48%)	47 (30%)	8 (5%)	3 (2%)	**155**
Total	**90 (22%)**	**185 (46%)**	**106 (26%)**	**15 (4%)**	**9 (2%)**	**405**

Table 16: Sector responses: By when should every property have a plan in place?

If so, by when should every property have a plan in place?	Within 2 years	Within 5 years	Within 10 years	Within 20 years	Longer than 20 years	Total answering question
Arable	5 (28%)	10 (56%)	3 (17%)	-	-	18
Central govt and health	10 (36%)	12 (43%)	4 (14%)	1 (4)	1 (4%)	28
Commercial fishing	3 (75%)	-	-	1 (15%)	-	4
Community	28 (29%)	41 (42%)	25 (26%)	3 (3%)	-	97
Dairy	26 (15%)	84 (48%)	51 (29%)	11 (6%)	2 (1%)	174
Energy	4 (36%)	4 (36%)	2 (18%)	-	1 (9%)	11
Environment/NGOs	19 (31%)	31 (51%)	11 (18%)	-	1 (2%)	61
Fertiliser	6 (23%)	15 (58%)	4 (15%)	1 (4%)	-	26
Forestry	10 (29%)	15 (43%)	7 (20%)	1 (3%)	2 (8%)	35
Horticulture	8 (33%)	10 (42%)	4 (17%)	1 (4%)	1 (4%)	24
Industry	9 (39%)	12 (52%)	2 (9%)	-	-	23

Irrigators	3 (23%)	7 (54%)	2 (15%)	1 (8%)	-	13
Local government	13 (20%)	32 (50%)	14 (22%)	4 (6%)	1 (2%)	64
Māori interests	8 (23%)	17 (49%)	7 (20%)	-	3 (9%)	35
Rural advocacy	6 (21%)	15 (52%)	6 (21%)	1 (3%)	1 (3%)	29
Rural professionals	8 (15%)	28 (52%)	16 (30%)	2 (4%)	-	54
Sheep and beef	14 (23%)	29 (47%)	17 (27%)	1 (2%)	1 (2%)	62
Tourism and recreation	15 (54%)	10 (36%)	2 (7%)	1 (4%)	-	28
Water supply takes	8 (36%)	8 (36%)	5 (23%)	1 (5%)	-	22
Other (inc education, grazing, student, bee industry, consultant, planner, research, waste water, construction, engineering etc)	15 (38%)	19 (48%)	6 (15%)	-	-	40

9.4 What particular implications do you think the CSG should consider?

Asked as part of the:

- stakeholder workshop
- online survey

Those attending the stakeholder workshop or engaging via the online survey were asked an additional question in relation to property plans: "What particular implications do you think the CSG should consider?". The 337 responses have been themed in Table 17.

Table 17: Themes of implications for the CSG to consider in relation to tailored property plans

Emerging theme	Theme counts		
	Stakeholder workshop	Online survey	Total
Comment regarding the need for variation in plans	**67**	**61**	**128**
An allowance for industry variation in pollution, e.g., Dairy vs Beef and Sheep vs Hort.	16	20	36
Comment regarding the 4ha cut off	30	2	32
The economic viability of implementing the plan for a given business	3	26	29
The property's specific nuances, e.g., land contour, soil type, current practice, historic actions	9	5	14
Flexibility to change if needed	4	5	9
Should include horticulture/ smaller property as well	5	3	8
Comment regarding plan introduction	**62**	**62**	**124**
Resource available to actually implement or develop the plans	30	29	59
Availability of property maps/ plans	14	20	34
Minimising administration costs	12	2	14
Incentives for compliance	3	6	9
The need for cultural engagement/input	2	2	4
All property owners should be treated the same	1	2	3
Cost of implementation	-	1	1
Comment regarding plan timings	**31**	**16**	**47**
Shortening the timeframe/achieving as many as possible early on	12	8	20
Prioritisation of high polluters first	9	5	14
How the plans can be introduced/phased in	8	1	9
Timeframes need to be longer	2	2	4
Comment regarding monitoring	**24**	**14**	**38**
How to best enforce plan compliance	14	8	22
The frequency of monitoring required	10	6	16
Totals	**184**	**153**	**337**

10 If there was to be a stock exclusion rule, what waterways should it apply to?

Asked as part of the:

- stakeholder workshop
- online survey

This question was aimed at testing one of the CSG's potential policy options. This question related to the fifth key area they wanted to have discussions and get feedback on: "policy options (regulatory and non-regulatory) being explored for achieving limits and targets".

This question was asked at the stakeholder workshop and the online survey. In total, 546 people provided a response to this question.

The full text of this question was: "If there was to be a cattle and deer exclusion catchment wide rule, should it apply to all waterways or all perennial (flows all year around) waterways? Should it only apply to waterways (perennial or otherwise) over a certain size? (*tick one of the boxes below*)". This question had a response option as shown in Figure 6. There were 538 responses to this part of the question.

The stakeholder workshop question also included a comment box. In total there were 123 comments in relation to this question. These comments have been themed and can be found in Table 21.

Whilst the question asked stakeholders to tick one of the boxes in the table to the right, some stakeholders chose to tick more than one box. This poses a potential conundrum as some answers are exclusive of other answers, for example a rule that excludes cattle and deer from perennial waterways over 1m wide is inconsistent with a rule that excludes cattle and deer from all waterways of any size. Other answers might not be inconsistent if people thought there could be two rules (one for perennial waterways and one for all other waterways) or that some types of waterways could be dealt with via a property plan. Hence feedback has been broken up to account for the different ways people may have interpreted and answered this question. This is shown in tables 19 and 20 below.

All waterways		Perennial waterways	
Any size	☐	Any size	☐
Over 1m wide	☐	Over 1m wide	☐
Over 3m wide	☐	Over 3m wide	☐
Over 5m wide	☐	Over 5m wide	☐
Cattle exclusion should be left up to each property plan to determine (i.e. this should not be a catchment wide rule)			☐

Figure 6: Response box to stock exclusion rule question

Table 18 below shows responses from stakeholders who only ticked one box. Hence the results show the clear preference choice of these stakeholders and we can be relatively certain of the way stakeholders interpreted the question. The majority of responses, 443 (82%), to this question fall into this category.

Table 18: Preferences for waterway type and size for if there was a stock exclusion rule

Event	**Preferences for waterway type and size for if there was a stock exclusion rule**					
		Any size	**Over 1m wide**	**Over 3m wide**	**Over 5m wide**	***Total***
Stakeholder workshop	All waterways	19	13	1	-	***33***
	Perennial waterways	29	28	11	2	***70***
	Should be left up to each property plan (i.e. not a rule)					***28***
Online survey	All waterways	99	23	8	5	***135***
	Perennial waterways	39	44	12	4	***99***
	Should be left up to each property plan (i.e. not a rule)					***78***
Combined	All waterways	**118**	**36**	**9**	**5**	***168***
	Perennial waterways	**68**	**72**	**23**	**6**	***169***
	Should be left up to each property plan (i.e. not a rule)					***106***

Below are some probable conclusions that can be drawn from this table. Out of the people who gave one response to this question:

- 337 (76 per cent) thought there should be a stock exclusion rule of some kind compared to 106 (24 per cent) who thought this matter should be left up to the property plans
- Out of those who thought there should be a stock exclusion rule there was roughly a 50/50 split between those who thought it should apply to all waterways and those who thought it should apply only to perennial waterways
- The single largest response was for a rule that applies to all waterways of any size. This had the support of 118 people (27 per cent)

Table 19 below shows responses from stakeholders who ticked more than one box but their answers are not necessarily exclusive. Hence the results do not show a clear preference choice but their answers are still valid under a possible multiple stock exclusion rule and/or property plan scenario. However the results should be interpreted with caution as we cannot know how stakeholders who answered in this way interpreted the question. Due to the myriad of types of answers the results for the stakeholder workshop and survey are not shown separately. There were 76 (14 per cent) responses which fall into this category.

Table 19: Non-exclusive multiple response answers to the stock exclusion rule question

Event	**Non-exclusive multiple response answers to the stock exclusion rule question**	
	Two rules scenario	
Combined	Perennial waterways (Any size) + All waterways (Over 1m wide)	***11***
	Perennial waterways (Any size) + All waterways (Over 3m wide)	***4***
	Perennial waterways (Any size) + All waterways (Over 5m wide)	***2***
	Perennial waterways (Over 1m wide) + All waterways (Over 3m wide)	***6***
	Perennial waterways (Over 1m wide) + All waterways (Over 5m wide)	***5***
	Perennial waterways (Over 3m wide) + All waterways (Over 5m wide)	***2***
	Total	***30***
	Rule + property plan scenario	
	Property plan covers all non-perennial waterways + rule for perennial waterways (Any size)	***10***
	Property plan covers all non-perennial waterways + rule for perennial waterways (Over 1m wide)	***11***
	Property plan covers all non-perennial waterways + rule for perennial waterways (Over 3m wide)	***8***
	Property plan covers all non-perennial waterways + rule for perennial waterways (Over 5m wide)	***6***
	Property plan covers all perennial waterways below the rule size threshold + rule for all waterways (Over 1m wide)	***5***
	Property plan covers all perennial waterways below the rule size threshold + rule for all waterways (Over 3m wide)	***2***
	Property plan covers all perennial waterways below the rule size threshold + rule for all waterways (Over 5m wide)	***4***
	Total	***46***

Table 20 below shows responses from stakeholders who ticked more than one box and their answers are exclusive. Hence the results do not show a clear preference choice and their answers are not able to be reconciled under any scenario. As a result of the exclusive nature of the answers possible conclusions are not able to be drawn. Due to the myriad of types of answers the results for the stakeholder workshop and survey are not shown separately. There were 19 (4 per cent) responses which fall into this category.

Table 20: Exclusive multiple response answers to the stock exclusion rule question

Event	**Exclusive multiple response answers to the stock exclusion rule question**	
	Multiple rules	
Combined	All waterways (Any size) + Perennial waterways (Over 1m wide)	***7***
	All waterways (Any size) + Perennial waterways (Over 3m wide)	***2***
	All waterways (Over 1m wide) + Perennial waterways (Over 3m wide)	***4***
	All waterways (Any size) + All waterways (Over 1m wide)	***1***
	Perennial waterways (Any size) + Perennial waterways (Over 1m wide)	***1***
	All waterways (Any size) + All waterways (Over 1m wide) + All waterways (Over 3m wide) + All waterways (Over 5m wide)	***1***
	Total	***16***
	Rule(s) + property plan	
	Property plan covers all perennial waterways + rule for all waterways (Any size)	***2***
	Property plan covers all waterways + rule for perennial waterways (Any size) + rule for perennial waterways (Over 1m wide) + rule for perennial waterways (Over 3m wide)	***1***
	Total	***3***

Table 21: Themed comments regarding a stock exclusion rule

Emerging theme	Theme counts
	Stakeholder workshop
Comments relating to property plans, e.g. Come to an agreement via property plan, good tool for dealing with ephemeral, flexibility/variability - and case by case basis	29
Questions/Not sure/Need more info	15
Comments that further support this kind of rule	13
All waterways should be covered - and need to have regard for compounding effects - all waterways lead to bigger waterways	12
There will need to be clear definitions of waterway types and clear guidance	10
Not ephemeral waterways, e.g. Too difficult	7
Should not be left up to property plans	7
Farm drains should be exempt or treated differently	6
Rule should include wetlands/swamps	5
Need to recognise that a lot of work has already been done, including the SDWA obligations	5
Comments that recognise implementation, enforcement and monitoring issues	5
Need to prioritise stream fencing, e.g. Fence wider streams first, flatter land, highest risk, catchment location, cost vs benefit	5
Need to have regard for land contours, stream bank slope, and land use - including what is the best practicable option	5
Need to understand the differing contributions of perennial and ephemeral waterways	4
Need to consider timing of implementation	3
Need to have regard for economic impacts	3
Rule should include horses	2
Rule should include sheep	2
Rule should include drains/artificial waterways	2
Need to include a provision so drains can be cleaned	2
Need to factor in stream bank erosion and flooding	2
Need to consider how to deal with the varying widths of streams, on and between properties and how width is measured	2
Consistent with national regulations/LAWF	2
Need to factor in stock concentration	2

Rule should include both banks of a waterway	**1**
Rule should include an exemption option if mitigation can be achieved via property plan	**1**
Rule should include requirement to have riparian planting	**1**
Should be stock exclusion regardless of land contour	**1**
Rule should include natural barriers as exclusion, i.e. Doesn't have to be a fence	**1**
Need to consider long term land use	**1**
Need to ensure individuals take responsibility for their environmental footprint	**1**
Need incentives/funding to encourage fencing	**1**
Rule should include springs (puna wai)	**1**
Exclude based on environmental values	**1**
Total	**160**

11 If there was to be a setbacks rule, which option would you prefer?

Asked as part of the:

- stakeholder workshop
- online survey

People who participated in the stakeholder workshop or responded to the online survey were asked to choose one of three options as their preference is there was to be catchment wide rule regarding setbacks. The three options were:

Option 1: 5 metre wide setbacks for all perennial (flows all year around) waterways across the range of land uses (i.e. cattle grazing, production forestry and cultivation)

Option 2: There should be different setback widths specified for different land uses or different stream sizes

Option 3: Setback width should be left up to each property plan to determine (i.e. this should not be a catchment wide rule)

Table 22: If there was to be a setbacks catchment wide rule, which of the following options would you prefer (pick one)?

Answer Options (pick one)	Online survey	Stakeholder workshop	Total
Option 1: 5 metre wide setbacks for all perennial (flows all year around) waterways across the range of land uses (i.e. cattle grazing, production forestry and cultivation)	95 (27%)	20 (11%)	**115 (22%)**
Option 2: There should be different setback widths specified for different land uses or different stream sizes	125 (35%)	78 (45%)	**203 (38%)**
Option 3: Setback width should be left up to each property plan to determine (i.e. this should not be a catchment wide rule)	133 (38%)	76 (44%)	**209 (40%)**
Comments made: Are there any particular aspects of this rule you think the CSG should consider?	*146*	*117*	***263***
Total answering question	**353**	**174**	**527**

People were also asked an open question: “Are there any particular aspects of this rule you think the CSG should consider?”. Table 23 shows the key themes that emerged from respondents who commented. Within a comment it was possible for two or more themes to emerge. The count number is therefore more than the actual number of comments made i.e. total of 325 from the analysis of themes compared to 263 actual comments from individuals.

Table 23: Themes on any particular aspects of this (setbacks) rule the CSG should consider?

Key themes from respondents who commented on whether there were any particular aspects of this rule the CSG should consider.	Online Survey	Stakeholder workshop	Total
Geology/topography/geography/land use (e.g. contour of land, soil type, current land use)	48	45	**93**
Property plan	10	24	**34**
Mitigation methods and implementation	11	12	**23**
Financial cost incl. lost production, resource costs and ongoing maintenance	21	2	**23**
Combination of two to three of the options	6	13	**19**
Consider wider setback as not enough	14	4	**18**
Control of weeds	11	3	**14**
Work with the landholder/farmer, fairness needed as management practices and discharges vary	9	5	**14**
Need a practical approach, combine rules with support	9	4	**13**
Clear definitions of waterways	7	4	**11**
Consider fencing and current work that has already been done and cost implications	6	4	**10**
Monitoring and auditing needs to occur but who, how and when poses an issue	1	7	**8**
Riparian vs setback	4	3	**7**
Risk based, prioritise locations	5	2	**7**
Easier to enforce one simple rule	4	2	**6**
Requires some flexibility in order to be achievable	1	4	**5**
Consider urban environmental impacts	3	-	**3**
Not relevant	2	1	**3**
All animals treated the same	2	-	**2**
Financial support to do what's required	2	-	**2**
Major contributors need to be held to account and big changes needed. Target non compliance	2	-	**2**
Consider economic and social impacts	1	-	**1**
Support option 1 in terms of the Vision and Strategy	1	-	**1**
Challenge to implement	1	-	**1**
Use the one-plan template this has already been worked out	1	-	**1**
Ensuring difference regarding the activity and receiving water body without making it too complex	1	-	**1**
Better to regulate at a subcatchment level	-	1	**1**
Need consideration for Māori Multiple Owned Land	-	1	**1**
Still need a minimum baseline	-	1	**1**
Total	**183**	**142**	**325**

12 Should there be an interim rule to limit increased contaminant losses due to intensification?

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshop (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato community workshop (Tuakau)
- Waipa community workshop (Otorohanga)
- online survey

This question was aimed at testing one of the CSG's potential policy options. This question related to the fifth key area the CSG wanted to have discussions and get feedback on: "policy options (regulatory and non-regulatory) being explored for achieving limits and targets". This question was asked across all forums. In total, 744 people provided a response to this question.

The full text of this question was: "Should there be an interim catchment wide rule to limit any increased contaminant losses as a result of intensification while the plan change is being implemented?". This question had a 'yes/no' response option, as well as a follow up question with a comment box: "If this were to be done, how should it be achieved?".

Some people chose to only answer either the 'yes/no' part or the comment question; others answered both. In total there were 404 comments in relation to this question. These comments have been themed and can be found in Table 25. Additionally many stakeholders also had specific suggestions for how this should be achieved and/or suggestions for modifying this rule. These have been grouped and can be found in Table 26 below. Table 24 shows the response to the 'yes/no' part of the question. There were 708 responses to the 'yes/no' question.

Table 24: Level of support for an intensification rule

Event	**Level of support for an intensification rule**		
	Yes	**No**	***Total***
Stakeholder workshop	119 (70%)	52 (30%)	**171**
Upper Waikato community workshop (Tokoroa)	33 (83%)	7 (18%)	**40**
Upper Waikato community workshop (Reporoa)	33 (80%)	8 (20%)	**41**
Middle Waikato community workshop (Hamilton)	37 (77%)	11 (23%)	**48**
Lower Waikato community workshop (Tuakau)	26 (87%)	4 (13%)	**30**
Waipa community workshop (Otorohanga)	22 (76%)	7 (24%)	**29**
Online survey	252 (72%)	97 (28%)	**349**
Total	**522 (74%)**	**186 (26%)**	**708**

Table 25: Themed comments relating to the intensification question

Emerging theme	Theme counts							
	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Hamilton workshop	Tuakau workshop	Otorohanga workshop	Online survey	Total
More info is needed to answer this question, e.g. on detail of the rule, definition of intensification	17	2	7	1	5	5	12	49
Comments that further support this rule	14	2	3	3	4	4	9	39
Need to collect info (such as farm accounts, current land use, current contaminant losses etc), ensure record keeping takes place and set up a minimum baseline	11	1	3	4	2	1	8	30
Comments that highlight further opposition to this rule	8	2	2	3	1	-	10	26
Comments that recognise the difficulties with monitoring and/or implementing this rule	11	2	1	1	1	2	7	25
Opportunity for education, community input and getting buy-in	3	-	1	6	1	1	8	20
There should be clear guidelines/early signals so that people cannot game the system and know that future intensification will not be protected	9	-	-	1	-	-	9	19
Need flexibility and not to restrict innovation, should depend on farm situation and on case-by-case basis	5	-	2	4	1	-	6	18
Use regulatory tools such as making people get consents, discretionary activity class and taking enforcement action for non-compliance, e.g. Fines	-	-	-	2	1	1	14	18
We are moving too slowly or this rule needs to be in effect from notification (day 1) and implemented quickly	12	1	-	-	-	1	3	17
There are equity/fairness issues with this rule	5	-	1	2	-	2	7	17
Consider the timeframe needed to achieve the outcomes and the timing of the rule in light of property plan implementation	5	-	1	2	1	1	3	13
Allocation - no grandparenting. Benchmarking could equal grandparenting if not careful - don't benefit polluters	8	-	2	-	-	1	1	12

Overseer - will it be used, accuracy of available models, how will we deal with version changes	5	1	-	-	-	-	6	12
Rule needs to ensure that water quality doesn't get worse	4	1	-	1	-	-	6	12
Use tailored property plans to implement this rule and to hold the info needed for this rule	4	-	-	2	1	-	5	12
Get people to best practice first or set benchmark at best practice level	5	-	2	-	-	-	3	10
Our efforts would be better spent elsewhere than this rule	3	-	-	3	-	-	4	10
Allocation - want an average by catchment approach	2	-	1	-	-	1	-	4
Many parameters that influence increased contaminant losses are outside of control, e.g. weather events	1	1	1	-	-	-	1	4
Allocation - natural capital approach	-	-	-	-	-	1	3	4
Need to consider contaminants other than just N	2	-	-	-	-	-	1	3
Need additional rules to limit high input systems	1	1	-	-	-	-	1	3
Allocation - want a grandparenting + GMP practice approach	1	-	-	-	-	-	2	3
Use incentives to encourage compliance	-	1	-	-	1	-	1	3
Protect big areas of forest	1	-	-	-	1	-	-	2
Rule needs to accommodate the cyclical nature of some sectors, e.g. Forestry	1	-	-	-	-	-	-	1
Allocation - equal allocation	1	-	-	-	-	-	-	1
Urban systems should be at best practice, e.g. city effluent, city planning	1	-	-	-	-	-	-	1
Totals	**140**	**15**	**27**	**35**	**20**	**21**	**130**	**388**

Table 26: Specific suggestions for how an interim intensification limiting rule might be achieved

Suggestion	Counts							
	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Hamilton workshop	Tuakau workshop	Otorohanga workshop	Online survey	Total
Land use change should be prohibited - either temporarily (moratorium) or permanently	12	3	2	3	1	1	17	39
Land use change should be controlled, e.g. through restrictions, via a consent or not being allowed to exceed the catchment average	6	-	2	2	-	1	10	21
Controls placed on stocking rates and/or milk solids/ha	3	1	-	-	1	1	6	12
Benchmark should be >10% for some land types, e.g. where model [Overseer] is very inaccurate or for lower emitters	3	1	1	1	-	-	2	8
Industry or 3rd party led options, e.g. no new supply numbers issued	4	-	-	-	-	1	2	7
Benchmark needs to be taken over a timeframe, e.g. last 3 years	2	-	-	-	-	-	3	5
Rule should differ by catchment, i.e. each catchment could have a max intensity and any land use above this would need to get a consent	3	1	-	-	-	-	-	4
Rule should be more restrictive in some circumstances, i.e. when catchment is over allocated or for comparatively higher loss farmers	2	-	-	-	-	-	2	4
Any intensification that reduces water quality should have to make an equivalent financial contribution to improving water quality into a WRC controlled fund	-	-	-	-	-	1	2	3
Percentage should be smaller, e.g. 5%, 0%	2	1	-	-	-	-	-	3
Benchmark should be based on the performance levels of the top 20% of comparable properties	-	-	-	-	-	-	1	1
Any significant development >50ha should need to get a resource consent	1	-	-	-	-	-	-	1
Policy that any intensification after a certain date will not be accommodated in future allocation	1	-	-	-	-	-	-	1
New conversions should be prohibited from using	-	-	-	-	-	-	1	1

fertiliser and if they want to use it they must purchase this right from existing farms								
WRC should purchase erosion prone land and plant into forestry	-	-	-	-	-	1	-	1
Sliding scale of percentages with farmers at lower leeching levels having a higher percentage	-	-	-	-	-	1	-	1
Govt organised work schemes, for people who are unemployed, for the practical steps, e.g. fencing, riparian planting	-	-	-	-	1	-	-	1
Totals	**39**	**7**	**5**	**6**	**3**	**7**	**46**	**113**

13 Should a property be able to mitigate contaminant discharges through a property plan to achieve compliance with a rule?

Asked as part of the:

- stakeholder workshop
- online survey

Stakeholder workshop participants and those that responded to the online survey were asked: “Should a landholder be able to mitigate the effects of their contaminant discharges through their property plan to achieve compliance with a catchment wide rule?”. Following the yes/no response participants were then asked to comment further with the question “What are your thoughts on this?”.

The table below shows participant responses to the yes/no question.

Table 27: Should a property be about to mitigate contaminant discharges through a property plan to comply with a rule?

	Yes	No	*Comments*	Total
Online survey	299 (88%)	42 (12%)	*135*	**341**
Stakeholder workshop	146 (84%)	27 (16%)	*126*	**173**
Total	**445 (87%)**	**69 (13%)**	***261***	**514**

Sector responses are shown in Table 28. Participants could choose a number of sectors they felt they represented. Respondents did not necessarily need to answer the yes or no question to provide a comment. In analysing the themes however, only those that responded to the yes or no question have been included. Therefore the total number of comments does not match the number of comments made by those that responded to the yes/no question. Also within one comment it was possible for two or more themes to emerge from a respondent i.e a total of 296 from the analysis of themes compared to 261 actual comments from individuals.

Table 29 shows the emerging themes from those participants that responded ‘yes’ to the question while Table 30 shows themes for those that responded ‘no’ to the question.

Table 28: Response by sector: should a property be about to mitigate contaminant discharges through a property plan to comply with a rule?

Sector responses to Yes / No question			
Sector	**Yes**	**No**	**Total**
Arable	11 (92%)	1 (8%)	12
Central government	6 (75%)	2 (25%)	8
Commercial fishing	1 (50%)	1 (50%)	2
Community	46 (77%)	14 (23%)	60
Dairy	109 (90%)	12 (10%)	121
Energy	8 (73%)	3 (27%)	11
Environment/NGOs	31 (82%)	7 (18%)	38
Fertiliser	18 (86%)	3 (14%)	21
Forestry	22 (79%)	6 (21%)	28
Health	3 (100%)	-	3
Horticulture	18 (82%)	4 (18%)	22
Industry	16 (94%)	1 (6%)	17
Irrigators	10 91%)	1 (9%)	11
Local government	30 (88%)	4 (12%)	34
Māori interests	14 (78%)	4 (22%)	18
Rural advocacy	23 (96%)	1 (4%)	24
Rural professionals	37 (90%)	4 (10%)	41
Sheep and beef	33 (89%)	4 (11%)	37
Tourism and recreation	8 (67%)	4 (33%)	12
Water supply takes	12 (92%)	1 (8%)	13
Other	33 (79%)	9 (21%)	42

Table 29: Themes from those responding ‘yes’ to the question to mitigate contaminant discharges through a property plan

Emerging themes	Online survey	Stakeholder workshop	Total
Mitigation method, mitigation should be encouraged	17	5	**22**
Need to consider monitoring, auditing and enforcement for compliance as could be challenging	11	9	**20**
Each property is unique. Dependent on farming system, land use, location, geology.	11	6	**17**
Potential to encourage innovation	3	12	**15**
Supports landholder to take ownership to improve management practices and planning	2	11	**13**
Generally support this method	8	4	**12**
Work with landholder	9	2	**11**
Need to consider financial impacts	9	2	**11**
Requires some flexibility in order to be achievable	4	5	**9**
Need to consider landholders who have already put mitigations in place	9	-	**9**
Needs to be reasonable and practical	1	6	**7**
Can be proven, measured and auditable	1	5	**6**
Need to consider incentives	2	4	**6**
Use property plan as a permitted activity	2	4	**6**
Work with industry who have a working knowledge of management practices and requirements	2	3	**5**
Fairness needed as management practices and discharges vary per property	5	-	**5**
Landholders need to be held to account and big changes needed	3	2	**5**
Property should be able to offset discharges	4	1	**5**
As long as actions in plan give effect to catchment wide rule to reduce discharges	-	4	**4**
Should be required to	1	3	**4**
Aligns with RMA to avoid, remedy and mitigate	2	2	**4**
Need a base line or bottom line that is consistent	3	-	**3**
Need clear targets, guidelines and ways to measure in place	3	-	**3**
Don't rely on biodiversity offset approaches need to limit discharges	3	-	**3**
Need compliance as a minimum as soon as possible	1	1	**2**
Over and above the baseline	-	2	**2**
Focus catchment wide rule on achieving outcome	-	2	**2**
Don't understand question	2	-	**2**
A lot of consent processing but enables discretion.	-	1	**1**

All properties within a particular catchment should have an upper limit of N loading associated with it. Those exceeding catchment limits need to make changes to their management practices to come under limit.	-	1	**1**
Any deviations from catchment wide rule to require Council approval	-	1	**1**
As long as it includes Overseer	-	1	**1**
Good in theory but may be difficult in practice.	-	1	**1**
However, if breaching catchment wide rules property plan should be consented	-	1	**1**
If the catchment wide rule it is one way to do it but it depends on the level of detail required in property plan.	-	1	**1**
Initiate generic mitigation practices now	-	1	**1**
Intensification is permissible if no increase in diffuse load. Must be farmers to manage.	-	1	**1**
Introduce trading within the broader catchment to mitigate effects off site	-	1	**1**
Land use should be optimised both for environmental and economic benefits.	-	1	**1**
Measured against current use, mitigations on or off property to balance	-	1	**1**
Only in exceptional circumstances where catchment wide rule is impractical	-	1	**1**
Potential to discourage innovation	-	1	**1**
Provided rules applied in proportion to effect on the environment	-	1	**1**
Science based mitigations are how real long term improvements will be made	-	1	**1**
The plan should encourage on-site mitigation of effects	-	1	**1**
The question is who is managing the property the owner or the regulator	-	1	**1**
With mitigation, could still have an adverse environmental effect as still able to discharge contaminants	-	1	**1**
Recuperate costs from over charging from council	1	-	**1**
Work with community projects	-	1	**1**
Properties under common ownership in the catchment will need to balance environmental impacts with differing land use to achieve the rule	1	-	**1**
Not enough research. Huge problem that needs huge investment.	1	-	**1**
No one size fits all approach	1	-	**1**
Focus catchment wide rule on achieving outcome	1	-	**1**
Need to consider urban environmental impacts too	1	-	**1**
Plans should be optional	1	-	**1**
Depend on the level of change required	1	-	**1**
Consider a long term plan with a steady programme of work to achieve catchment reductions	1	-	**1**
Consistent with current approach when obtaining a consent	1	-	**1**
Prefer avoid or remedy NOT mitigate	1	-	**1**
Better to regulate at a subcatchment level	1	-	**1**
High risk areas to be prioritised	1	-	**1**

Aspirations are too high to achieve	1	-	**1**
Both interim and after the plan change.	1	-	**1**
Target farmers who don't comply	1	-	**1**
Total	**134**	**115**	**249**

Table 30: Themes from those responding ‘no’ to the question to mitigate contaminant discharges through a property plan

Key themes of those that responded NO to the question to mitigate contaminant discharges through a property plan	**Online survey**	**Stakeholder workshop**	**Total**
Need a base line or bottom line that is consistent	3	6	**9**
Need to consider monitoring, auditing and enforcement for compliance as could be challenging	3	3	**6**
With mitigation, could still have an adverse environmental effect as still able to discharge contaminants	4	-	**4**
More solutions needed	2	1	**3**
Each property is unique. Dependent on farming system, land use, location, geology	-	3	**3**
Need to limit discharges without exclusions	-	3	**3**
Don't understand question	2	-	**2**
Landholders need to be held to account and big changes needed	2	-	**2**
Mitigation method	-	2	**2**
Cap contaminants on a per property basis	1	-	**1**
Contamination shouldn't be traded to support undesirable activities	1	-	**1**
No this would need to depend on the type of discharge	1	-	**1**
Policies and plans need to be transparent	1	-	**1**
Should be rules for loads to land, discharges from land and to water and instream limits	1	-	**1**
Not if a permitted activity for property plan	-	1	**1**
Should encourage good management practice	-	1	**1**
Prefer avoid or remedy NOT mitigate	-	1	**1**
Fairness needed as management practices and discharges vary per property	-	1	**1**
Won't stop stock destroying banks/polluting waterways	-	1	**1**
Target farmers who don't comply	-	1	**1**
Focus catchment wide rule on achieving outcome	-	1	**1**
Need output based standards to deliver on environmental outcomes	-	1	**1**
Total	**21**	**26**	**47**

14 In general, are you comfortable with the set of catchment wide rules we are considering?

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshops (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato community workshop (Tuakau)
- Waipa community workshop (Otorohanga)

This question was asked towards the end of the information provided or discussed on catchment wide rules (CWRs). Its purpose was to gauge whether stakeholders were comfortable with the policy package presented. The question was asked across all engagement forums.

In total, 675 stakeholders answered this yes/no question with 75 per cent overall (Table 31) indicating that in general they were comfortable with the set of CWRs the CSG are considering. There was some difference across forums, with results ranging from 69 per cent (online survey respondents) to 90 per cent of those attending the Tuakau community workshop. Responses by sector are shown in Table 32.

Table 31: In general, are you comfortable with the set of catchment wide rules we are considering?

In general, are you comfortable with the set of catchment wide rules we are considering?	Yes	No	Total
Online survey	239 (69%)	106 (31%)	**345**
Stakeholder workshop	117 (78%)	33 (22%)	**150**
Tokoroa workshop	32 (80%)	8 (20%)	**40**
Reporoa workshop	32 (84%)	6 (16%)	**38**
Hamilton workshop	34 (79%)	9 (21%)	**43**
Tuakau workshop	26 (90%)	3 (10%)	**29**
Otorohanga workshop	26 (87%)	4 (13%)	**30**
Total	**506 (75%)**	**169 (15%)**	**675**

Table 32: Sector responses: in general, are you comfortable with the set of catchment wide rules we are considering?

In general, are you comfortable with the set of catchment wide rules we are considering?	Yes	No	Total
Arable	21 (81%)	5 (19%)	26
Central government and health	25 (74%)	9 (26%)	34
Commercial fishing	5 (100%)	-	5
Community	144 (77%)	42 (23%)	186
Dairy	213 (72%)	83 (28%)	296
Energy	13 (77%)	4 (23%)	17
Environment/NGOs	31 (66%)	16 (34%)	47
Fertiliser	27 (73%)	10 (27%)	37
Forestry	43 (69%)	19 (31%)	62
Horticulture	30 (83%)	6 (17%)	36
Industry	27 (69%)	12 (31%)	39
Irrigators	13 (77%)	4 (23%)	17
Local government	76 (82%)	17 (18%)	93
Māori interests	48 (87%)	7 (13%)	55
Rural advocacy	28 (64%)	16 (36%)	44
Rural professionals	62 (76%)	20 (24%)	82
Sheep and beef	85 (65%)	45 (35%)	130
Tourism and recreation	41 (84%)	9 (16%)	49
Water supply takes	28 (65%)	15 (35%)	43
Other (incl. education, grazing, student, bee industry, consultant, planner, research, waste water, construction, engineering etc)	49 (77%)	15 (23%)	64

14.1 Is there anything else you think the CSG should consider being a catchment wide rule?

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshops (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato community workshop (Tuakau)
- Waipa community workshop (Otorohanga)
- online survey

This question was asked at the end of the information provided or discussed on catchment wide rules (CWRs) across all forums. Its purpose was to gather any further thoughts or new ideas that stakeholders would like the CSG to consider as part of the policy package.

In total, 354 comments were collected. Of these comments 94 contained (an) idea(s), 16 contained questions and 243 were more general statements (very wide ranging). Some of the comments contained more than one idea, statement or question. Given the question was around anything else they wanted to consider as a CWR, the approach taken was to first look through all the comments and pull out the ideas. These have been themed into basic areas and are shown in the following figure. Statements are themed at the end of the section.

Figure 7: Themed ideas regarding catchment wide rules

Stock

- Should be rules on class VI, VII and VIII land for heavy cattle
- Stock exclusion from permanently flowing drains
- Stock exclusion from swamps and wetlands
- Provision to allow temporary fencing/electric fencing on some extensive properties (give time for costs of permanent fencing)
- Exclude all stock (from waterways), horses, alpacas, goats, pigs, deer
- Limiting stocking rates. These have increased consistently in NZ over the last 30 years
- Have stocking limits in sensitive catchments

Sediment

- Rule for road sediment
- Need to include highway/road construction contractors and forestry contracts need to be monitored more closely to reduce their sediment discharges in periods of heavy rain
- Sediment traps in streams otherwise known as ponds/small dams that fill when stream is in flood only.
- Sediment traps are very worthwhile but require maintenance and monitoring so provision for this should be included.
- Consents to include permissible sediment discharge rates.

Intensification

- No more dairy conversions in Taupo area
- Moratorium on further dairy intensification
- Look closely at stock (all stock) intensification
- Immediate stop to any further conversion of land to dairy - particularly large scale forest to dairy.
- Intensification to 2ha
- If there is an existing farming operation it should remain in place. New rules i.e. land usage should apply to conversions only.
- Catchment wide rule should include no new dairy conversions. Any further intensification should be mitigated totally

Culverts

- Include culvert design – remove perched culverts as a rule
- Have a look though at the culvert and heading up rules that encourage large pipes when detention/ silt traps should be encouraged on all pastoral land. The current rules have no consideration of downstream effects.
- Enforcement of existing consents for underpasses and culverts.

Nutrients and/or soil

- Limit aerial spraying and aerial top dressing
- Upper catchment - very strict controls on forestry harvest & soil disturbances of any sort - to limit TP and DRP where is matters most
- Have an upper limit on leaching that is allowed as permitted
- Intensification should be capped as is rather than a 10% increase allowance
- The plan should encourage trapping of contaminants and treatment of water on a larger scale that the individual farm. - more effective and efficient - measurable - cost effective - better control
- Stocking rates (or nutrient budgets)
- Need to be substantially widened in their scope to include changes in fertilizers chemical makeup to include the ultimate banning of nitrogenous and phosphate fertilizers - there are better ways to treat our soils and waterways.
- N fert use including N on hill country
- A greater focus on the benefits of healthy soil to make better use of soil nutrient along with the benefits of pasture diversity.
- Nutrient plans with nutrient management plans used
- All farms and land use should operate under the same nutrient loss rules catchment wide New conversions should operate at catchment average.
- Consideration of a tender of N/P emissions similar to the carbon tender arrangements
- A limit to P applied/ha for each farming type
- The use of N fertiliser. There is technology to replace it that results in increased production with significantly reduced nutrient loss
- Controls on applications of fertilisers/sprays/chemicals on land
- Fertiliser application limitations based on soil types, landforms, and ecosystem services
- Optimal fertiliser matched to farm soil tests
- Requirement to benchmark against similar properties for ROC/profit, kgms/kg leached
- Taxation of N above a level deemed polluting e.g. 30 - 35kg/ha
- Soil sample. Time of exposure, depth and distance from river across various farm types. ie means test
- Not allowing certain land use practices on certain soil types and slopes. Those with the greatest impact simply should not be allowed there

Setbacks

- Should be a rule about overgrazing next to water
- Riparian planting along perennial waterways
- Planting of all setbacks > 2m
- Riparian planting in some cases - not just grass in setback
- Setbacks from water bodies. E and SC [erosion and sediment control] for all earthworks including cultivating soil a distance from waterways
- Action plan for buffering land. Carefully distinguishing a drain v river
- Suggest the width of setback be graduated. Best science says 10m is required for an effective riparian buffer. Use this as required width for higher order streams/rivers and smaller width (5m) for small rivers.
- Specify that setbacks should be planted in trees (native) not just taken out of production. Benefits of riparian buffers require tall shading vegetation.
- Focus on appropriate plantings ie. not all popular and willow trees. Natives should be planted and control of blackberry and other weed/pest plants
- Fence the embankment at least 5 metres out and maybe grow some trees
- Just fence and plant queens chain for all water ways, even perennial
- No cattle grazing or walking within 5 m of water course
- Clear definition of watercourse
- Consider land use type and slope when setting setback or margin distances near water ways
- There needs to be a minimum two metre fenced strip on both sides of all water ways

Diversification

- Need to look at alternative land use options - aquaculture, nut crops, more organic crop production. Incentives for landowners to consider alternatives
- Encouragement to alternative land use - indigenous forestry where carbon credits can be obtained. Ramp up the interest in carbon credits
- Encourage tree crops (also CO2 benefits)
- Promote alternative farming techniques, biological farming methods etc

Other ideas regarding catchment wide rules

- Land to be bought by govt to create ponds that catch several or 20ish farms and they are charged a fee to clean it out per property/ or area they have that goes into creek passing through their place
- Rules for septic systems
- Create property plan officers to assess property and land use asap
- Incentives e.g. funds available for people who achieve under a certain threshold level
- Metal leaching
- Tradability of rights compensating performers (farm with low N loss)
- Consider whether a 4ha lower limit is right given the number of lifestyle and others which might be polluting waterways
- Develop a self assessment system (online)
- The urgent exclusion of municipal ie urban contaminated water discharges including sanitary treatment stations, contaminated storm water part from industrial activities
- Moratorium on further removal of forest - indigenous and natural vegetation
- Try to get Overseer more accurate (models reviewed) if this is being used to police the catchment wide rules
- Weed containment. Properties under 4ha that are still at risk properties need to be monitored
- All blocks of land greater than quarter acre need to have a certificate of practice
- Looking at sharing the losses of land which is poorly managed and needs improvement
- Should include smaller blocks - below 4ha that have streams running water going through then should be subject to the same exclusion and setback rules that larger farms are required to.
- Water storage should be considered. This will enhance the economic and quality issues of the river particularly at low flow levels
- Account for the effects of climate change, and probable international agreements on limits to carbon discharge and the impact of sea level rise
- Farming to be a consented activity to allow better monitoring etc, and real sanctions in the event of non-compliance, unlike current PA rules.
- Strict rules around horticulture run off

Other continued...

- Dumping of rubbish. Hidden cameras and hefty fines for intentional dumping of rubbish by 'mostly' townies in to rural areas
- No private farmer landfills! Better dumping options for farmers
- Leave farm drains out
- Ensure that urban storm water that current discharges at random into the Waikato River (particularly around Hamilton) is measured considered for its contribution to any contaminants
- Consider the nature of farming and its responsiveness to biological drivers. For example a few summer crops would have been planted this year to manage el nino and the decision had to be made quickly
- Developing or fencing off small wetlands and protection of existing flushes boggy areas is one under-utilised method
- Stop draining all wet areas
- It has been proven by simply oxygenating the river it will heal very quickly add pumps. Add floating garden to absorb the excess nitrogen
- Holdback of water at ephemeral level to reduce peak flows - this has flow-on benefits for all sediment and phosphorus control. Reversal of some catchment engineering which is promoting high peak flows
- Minimum area of effluent blocks as a proportion of farm size
- Ability to bring in and enforce new proven mitigation technologies as they arise in the next few years
- Elimination of collective responsibility for catchment wide problems - pollution must be measured, monitored and enforced at individual farm level or the progressive operations will end up heavily subsidizing the laggards
- Automatic requirement for notification of any new or renewed consent which has the potential to pollute waterways either directly or diffuse, especially urban water treatment discharges
- Automatic aggregation of consents which individually have 'less than minor' effects but cumulatively have significant effects
- Rid the waterways of carp as they are responsible for the destruction of waterways. They stir an incredible amount of sediment up which is deposited on floodplains during flood events
- If rivers and streams are to be fenced completely to stop stock accessing these area's, then it should be up to the regulating authority to keep that area fenced off completely weed free at their expense

Comments that were not 'ideas' for catchment wide rules were themed separately. These are shown by forum in Table 33. Most comments were around wanting more detail about the proposed catchment wide rules or that time was required for them to be further refined so that the implications could be understood.

Table 33: General themes from statements made on catchment wide rules

General themes from statements made in relation to catchment wide rules	Forum							Total
	Online survey	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Tuakau workshop	Hamilton workshop	Otorohanga workshop	
More detail or refining of rules needed, too broad, time needed to refine and understand implications	14	17	5	6	3	8	5	60
Property plans rather than CWRs. Need to be applied in a practical, best practice but flexible way. Case by case basis but fair and equitable	10	17	3	4	4	2	1	41
Too complex or draconian, cost could be prohibitive. Farms have to remain economical	11	5	1	1	-	1	1	20
Will not achieve the desired results as is, need N and P limits	3	7	-	1	-	2	1	14
Need to educate, empower and get everyone on board. More consultation and incentives needed	6	3	1	-	-	1	1	12
Monitoring will be required but difficult. Will be hard to police	4	1	1	-	1	2	1	10
Needs to be based on science. Factor in climate change	3	3	-	1	-	-	1	8
Not just farming, urban and industry issues needs to be taken into account	3	1	2	-	-	1	-	7
Take more time, wait for innovation	1	4	-	-	-	-	-	5
No grand-parenting of nutrient allocation	1	3	-	-	-	-	1	5
Need clear direction for land use change. LUC must underpin CWRs	2	2	-	-	-	-	-	4
Concerns about Overseer	1	1	-	1	-	1	-	4
Other comments – *eg. Please get on with it, happy in general, I'll wait and see, yes, agree, need well planted areas, consider impact per unit of food produced etc*	13	15	3	3	6	6	3	43

15 Would you support a catchment wide rate to fund actions to improve water quality?

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshop (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato community workshop (Tuakau)
- Waipa community workshop (Otorohanga)
- online survey

This question, asked across all forums, was aimed at finding stakeholder views on how costs could be shared and whether or not stakeholders thought that everybody in the catchment should contribute towards the cost of improving the health of the rivers and lakes

The full text of this question was: "Would you support a catchment wide rate where every ratepayer pays into a fund for actions to improve water quality?". This question had a Likert scale response ranging from 'Strongly support' to 'Don't support at all', as well as a comment box. In total, 736 people provided a response to this question.

In total there were 563 comments in relation to this question. These comments can be categorised by the answer that people gave to the Likert scale part of the question, i.e. into five categories: comments from those who strongly support, comments from those who somewhat support, comments from those who feel neutral, comments from those who somewhat don't support and comments from those who don't support at all. Within each category the comments have been themed and can be found in tables 34 to 39 below. Table 34 shows the response to the Likert scale part of the question, with 717 responses. A weighted average column (where "Strongly support" is '1' etc) has also been included for comparison purposes.

Table 34: Level of support for a catchment wide rate

Event	Level of support						
	Strongly support	**Somewhat support**	**Neutral**	**Somewhat don't support**	**Don't support at all**	**Total**	***Weighted average***
Stakeholder workshop	67 (40%)	60 (36%)	18 (11%)	11 (7%)	10 (6%)	166	***2.02***
Tokoroa workshop	26 (65%)	10 (25%)	1 (3%)	3 (8%)	-	40	***1.53***
Reporoa workshop	17 (40%)	12 (29%)	5 (12%)	3 (7%)	5 (12%)	42	***2.21***
Hamilton workshop	12 (26%)	14 (30%)	4 (9%)	9 (19%)	8 (17%)	47	***2.72***
Tuakau workshop	12 (39%)	6 (19%)	7 (23%)	5 (16%)	1 (3%)	31	***2.26***
Otorohanga workshop	11 (29%)	13 (34%)	5 (13%)	4 (11%)	5 (13%)	38	***2.45***
Online survey	100 (28%)	115 (33%)	36 (10%)	40 (11%)	62 (18%)	353	***2.57***
Total	**245 (34%)**	**230 (32%)**	**76 (11%)**	**75 (10%)**	**91 (13%)**	**717**	***2.35***

Table 35: Themed comments from those who strongly support a catchment wide rate

‘Strongly support’ comments								
Emerging theme	**Theme counts**							
	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Hamilton workshop	Tuakau workshop	Otorohanga workshop	Online survey	**Total**
Everyone uses/benefits from improved water quality so everyone should contribute and we need to work together to achieve a community goal, collective responsibility and communal ownership	40	15	11	6	4	4	30	**110**
Everyone contributes to water issues so everyone should contribute to the cost of fixing them	18	6	4	2	2	3	19	**54**
Yes, but as a %age of the total costs or proportional to their contribution/people who contribute more should have to pay more for water quality improvement	6	2	2	2	2	-	4	**18**
Yes, but all taxpayers not just ratepayers	1	2	1	-	2	2	2	**10**
Due to large costs involved with river restoration everyone will need to contribute	3	-	-	1	1	-	3	**8**
Yes, but others should also pay, e.g. Auckland for their water take, energy companies, industry, Central Govt, district councils etc	2	1	1	2	-	-	1	**7**
Same as for Lake Taupo	2	3	-	-	-	-	-	**5**
Yes, but prioritise money on flagship projects that people can see where rates are being invested - need transparency of where the money goes	3	-	-	1	-	-	1	**5**
Yes, but farmers shouldn't have to pay if they are doing a property plan	1	-	-	-	-	-	2	**3**
Yes, but money should be spent on things like education or riparian planning, not on property plan actions	2	-	-	-	-	-	1	**3**
Yes, regional council better ability/powers to manage effects - only organisation with overview	2	-	-	-	-	-	1	**3**
Need more information on what the cost of the rate would be	1	1	-	-	-	-	-	**2**
Yes, but people should have the option of volunteering labour (planting/fencing) instead or rebates for restorative actions	2	-	-	-	-	-	-	**2**

Yes, will have a significant improvement on the Waikato identity	-	-	-	-	-	1	1	**2**
Funding will reduce economic impacts such as job losses	-	-	-	1	-	-	1	**2**
Yes, but rate should be temporary	1	-	-	-	-	-	-	**1**
Landowners give away stream adjacent land and ratepayers pay for stock exclusion	1	-	-	-	-	-	-	**1**
Yes, but use the money to investigate alternative technologies	-	-	-	-	-	-	1	**1**
Yes, need to return the mauri to the waterways	-	-	-	-	-	-	1	**1**
Yes, but only for properties over 1ha	-	-	-	-	1	-	-	**1**
Totals	**85**	**30**	**19**	**15**	**12**	**10**	**68**	**239**

Table 36: Themed comments from those who somewhat support a catchment wide rate

‘Somewhat support’ comments								
Emerging theme	**Theme counts**							
	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Hamilton workshop	Tuakau workshop	Otorohanga workshop	Online survey	**Total**
Everyone uses/benefits from improved water quality so everyone should contribute and we need to work together to achieve a community goal, collective responsibility and communal ownership	28	4	6	6	4	5	20	73
Everyone contributes to water issues so everyone should contribute to the cost of fixing them	4	1	2	3	1	3	21	35
Yes, but as a %age of the total costs or proportional to their contribution/people who contribute more should have to pay more for water quality improvement	14	2	2	3	-	1	12	34
Polluter’s should be solely responsible for their environmental impacts	1	-	2	2	-	-	12	17
Would depend on what the fund will be used for and it should be appropriately managed with a strict criteria	8	-	-	-	-	-	6	14
Yes, but others should also pay, e.g. Auckland for their water take, energy companies, industry, central Govt, district councils etc	3	1	-	-	-	1	4	9
Yes, but as long as it’s not too much – already paying too much rates	-	-	1	-	-	-	5	6
Yes, but all taxpayers not just ratepayers	4	-	-	-	-	-	1	5
Yes, but prioritise money on flagship projects that people can see where rates are being invested - need transparency of where the money goes	1	-	1	-	-	-	3	5
Yes, but farmers shouldn't have to pay if they are doing a property plan	1	-	-	-	-	2	1	4
Yes, but people should have the option of volunteering labour (planting/fencing) instead or rebates for restorative actions	2	-	-	-	-	-	2	4
Need more information on what the cost of the rate would be	-	1	1	-	-	-	1	3
Same as for Lake Taupo	2	-	-	-	-	-	-	2

Yes, but money should be spent on things like education or riparian planning, not on property plan actions	1	1	-	-	-	-	-	2
Due to large costs involved with river restoration everyone will need to contribute	2	-	-	-	-	-	-	2
Rate tourists travelling into the region	1	-	-	-	-	-	1	2
Taupo shouldn't have to pay again	2	-	-	-	-	-	-	2
Yes, but should be a flat rate to all properties	1	-	-	-	-	-	1	2
Funding will reduce economic impacts such as job losses	-	1	-	-	-	-	-	1
Yes, but rate should be temporary	-	-	-	-	1	-	-	1
But need to consider demographics, i.e. ageing populations	1	-	-	-	-	-	-	1
Yes, but those who earn more should contribute more	-	-	-	-	-	-	1	1
Yes, should be used to pay for the property plan auditing process	-	-	-	-	-	1	-	1
Totals	**76**	**11**	**15**	**14**	**6**	**13**	**91**	**226**

Table 37: Themed comments from those who feel neutral about a catchment wide rate

Neutral comments								
Emerging theme	**Theme counts**							
	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Hamilton workshop	Tuakau workshop	Otorohanga workshop	Online survey	**Total**
Already pay too much rates and council should use the money it currently has to better effect	1	1	2	1	2	2	5	**14**
Would depend on what the fund will be used for and it should be appropriately managed with a strict criteria	3	-	1	1	1	1	4	**11**
Should pay proportionally to contribution to the issues	1	-	2	-	1	-	4	**8**
Polluters should be solely responsible for their environmental impacts	3	-	-	-	-	-	3	**6**
Everyone should contribute to the cost of addressing legacy issues	1	2	-	-	1	-	1	**5**
Others should also pay, e.g. iwi, energy companies, central Govt etc	3	-	-	-	1	-	-	**4**
People who have already implemented actions shouldn't have to pay again	1	-	-	-	1	1	1	**4**
Need more information on what the cost of the rate would be	1	-	-	-	-	-	1	**2**
Prioritise money on flagship projects that people can see where rates are being invested	1	-	-	-	-	-	-	**1**
Everyone uses/benefits from improved water quality so everyone should contribute	1	-	-	-	-	-	-	**1**
Need to weigh up the costs vs the benefits	1	-	-	-	-	-	-	**1**
Could be good to have a fund for non-private owned land	1	-	-	-	-	-	-	**1**
Let costs lie where they fall	1	-	-	-	-	-	-	**1**
Those who earn more should contribute more	-	-	-	-	-	-	1	**1**
Should be a flat rate to all properties	-	-	-	-	-	-	1	**1**
Look into alternative treatment options, such as biochar	-	-	-	-	-	-	1	**1**
All taxpayers should pay, not just ratepayers	-	-	-	1	-	-	-	**1**
Don't want to set a precedent for other catchments	-	-	-	-	-	-	1	**1**
Totals	**19**	**3**	**5**	**3**	**7**	**4**	**23**	**62**

Table 38: Themed comments from those who somewhat don't support a catchment wide rate

'Somewhat don't support' comments								
Emerging theme	**Theme counts**							
	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Hamilton workshop	Tuakau workshop	Otorohanga workshop	Online survey	**Total**
Polluters should pay for their environmental impacts, public money shouldn't be spent subsidising pollution, people should pay proportionally to their share of the issues	6	1	-	3	1	-	10	**21**
No, others should also contribute, e.g. Auckland, Central Govt, wider region, tourists	-	-	1	2	2	-	3	**8**
Would depend on what the fund would be spent on, e.g. Only on addressing legacy issues, incentives for land use change, erosion control	3	-	-	1	-	1	1	**6**
Should come from existing regional council funding	-	-	1	1	1	1	2	**6**
Already paying too much rates	-	-	-	2	2	-	2	**6**
No, but maybe a proportion of the funding could be from those who benefit from improved water quality	1	-	-	1	-	1	1	**4**
No, farmers pay high rates and plan change will increase costs on farmers, plus farmers already pay their share and are voluntarily spending money on improving water quality	-	1	1	1	-	1	-	**4**
Ratepayers shouldn't pay for poor performers	1	-	-	-	-	-	1	**2**
No, should be a targeted rate to the pastoral sectors	1	-	-	-	-	-	1	**2**
Would depend on who would have to pay the rate, i.e. urban	-	-	-	-	1	-	1	**2**
No, but ensure for those that do pay that it can be spread over a number of years	-	-	-	-	1	-	1	**2**
No, should be based on land value (not property size) and all land (incl Crown and iwi) should pay	-	-	-	1	-	-	1	**2**
No, should exclude those landowners who will be affected by income and equity loss	-	-	-	-	-	-	1	**1**
No, don't agree with funding more organisations	1	-	-	-	-	-		**1**
No, new or changes to existing land use pay a greater share	-	-	-	-	-	-	1	**1**
No, should be paid for by the wealthy	-	-	-	-	-	-	1	**1**
Those doing good work should get a rebate	-	-	-	-	-	-	1	**1**
Farms require an individual assessment	-	-	-	1	-	-	-	**1**
Totals	**13**	**2**	**3**	**13**	**8**	**4**	**28**	**71**

Table 39: Themed comments from those who strongly support a catchment wide rate

‘Strongly support’ comments								
Emerging theme	**Theme counts**							
	Stakeholder workshop	Tokoroa workshop	Reporoa workshop	Hamilton workshop	Tuakau workshop	Otorohanga workshop	Online survey	**Total**
Polluters should pay for their environmental impacts, public money shouldn't be spent subsidising pollution, people should pay proportionally to their share of the issues	4	-	-	1	-	1	20	**26**
Already paying too much rates	1	-	1	2	-	3	4	**11**
Should be paid for by all taxpayers, not ratepayers	1	-	3	-	-	-	4	**8**
No, farmers already pay high rates and plan change will already increase costs on farmers, plus farmers already pay their share and are voluntarily spending money on improving water quality	-	-	-	2	-	1	4	**7**
Should come from existing regional council funding	1	-	-	-	-	-	5	**6**
No, others should also contribute, e.g. Auckland, Central Govt, wider region, tourists	-	-	1	3	-	-	1	**5**
No, should be a targeted rate to the pastoral sectors	-	-	-	1	-	-	1	**2**
Would depend on what the fund would be spent on, e.g. Only on addressing legacy issues, incentives for land use change, erosion control	1	-	-	-	-	-	1	**2**
No, but maybe a proportion of the funding could be from those who benefit from improved water quality	-	-	-	-	-	-	2	**2**
No, some hapū did not consent to WRA having mana over them	-	-	-	-	-	-	1	**1**
If using land for forestry shouldn’t have to pay	-	-	-	-	1	-	-	**1**
Totals	**8**	**0**	**5**	**9**	**1**	**5**	**43**	**71**

16 Do you have any further comments for the CSG to consider?

Asked as part of the:

- stakeholder workshop
- Upper Waikato community workshops (Tokoroa and Reporoa)
- Middle Waikato community workshop (Hamilton)
- Lower Waikato community workshop (Tuakau)
- Waipa community workshop (Otorohanga)
- online survey

This question was used as a catch all question for stakeholders across all engagement forums. Its purpose was to give the opportunity for people to record some final thoughts before the end of the online survey or other engagement forum. The 299 comments gathered were wide ranging, as perhaps expected and have been themed in Table 40.

Table 40: Themed comments regarding any further comments for CSG to consider

Emerging theme	Theme counts							
	Stakeholder workshop	Online survey	Hamilton workshop	Otorohanga workshop	Reporoa workshop	Tokoroa workshop	Tuakau workshop	Total
Comment regarding uptake/ implementation	**25**	**27**	**9**	**6**	**9**	**5**	**3**	**84**
Need to tailor actions for individual properties	5	5	2	-	2	-	2	16
The need for any action to be practical and easy to Implement	7	2	1	4	1	1	-	16
Same rules should be applied to everyone	3	4	1	1	2	1	-	12
Should include residential areas as well	2	3	3	-	2	2	-	12
Be fair when implementing/ not heavy handed	-	6	1	-	2	-	-	9
Do not have grand parenting	6	-	-	-	-	-	-	6
Be firm/push to get the changes going	1	4	-	-	-	-	-	5
Properties less than 4ha should be included	-	1	1	-	-	1	-	3
Target largest contributors first	1	-	-	1	-	-	1	3
Be transparent/clear/open	-	1	-	-	-	-	-	1
Need grand parenting	-	1	-	-	-	-	-	1
Comment regarding cost to implement	**17**	**16**	**8**	**5**	**4**	**10**	**4**	**64**
Comment regarding the cost to implement proposed plan for farmers	7	6	2	4	3	2	2	26
User/ polluters should pay	4	1	3	-	-	3	2	13
Incentives required to assist uptake	2	4	1	-	-	4	-	11
Negative comment about 5m setback	3	-	1	1	1	1	-	7
Comment regarding monitoring	1	3	1	-	-	-	-	5

Fines/cost penalties for those not complying	-	1	-	-	-	-	-	1
Be flexible	-	1	-	-	-	-	-	1
Comment regarding science/ information supplied/ assumptions	**26**	**12**	**7**	**2**	**3**	**8**	**1**	**59**
Need more information about the changes	16	2	1	-	2	4	**-**	25
Comment regarding the science/modelling/inputs	6	6	2	2	1	-	-	17
Focus on specific science/hard data not necessarily Models	2	3	3	-	-	2	-	10
Need to see rules/policies around this to judge Effectiveness	2	-	-	-	-	2	1	5
No need for changes	-	1	1	-	-	-	-	2
Comment regarding consideration of long term impact	**11**	**18**	**7**	**2**	**3**	**5**	**3**	**49**
Consideration to the impact this will have at a community level	5	5	1	**-**	1	1	2	15
Positive comment regarding Healthy River project	-	5	3	-	1	3		12
The changes will affect everyone/all communities	3	1	2	-	1	-	1	8
Need to achieve a balance between environmental and economic needs	2	4	1	1	-	-	-	8
Consideration to the impact this will have at an industry level	1	3	-	1	-	1	-	6
Comment regarding timings	**7**	**13**	**2**	**-**	**1**	**-**	**-**	**23**
Get started/hurry up	3	8	2	**-**	**-**	**-**	**-**	13
Phase plans in slowly/give people time to adjust	3	5	-	-	1	-	-	9
Any plans will need reviewing in future years as changes take place	1	-	-	-	-	-	-	1
Comment regarding the process	**6**	**5**	**2**	**-**	**2**	**1**	**4**	**20**
Positive comment regarding the survey	3	1	2	**-**	2	1	4	13
Negative comment regarding the survey	3	4	-	-	-	-	-	7
Total	**92**	**91**	**35**	**15**	**22**	**29**	**15**	**299**

Asked as part of the:

- stakeholder workshop
- online survey

17 Should we be prioritising subcatchments? If so, on what basis should this be done?

This question was aimed at testing a potential policy approach the CSG may use. This question related to the fifth key area the CSG wanted to have discussions and get feedback on: “policy options (regulatory and non-regulatory) being explored for achieving limits and targets”.

This question was asked at the stakeholder workshop and the online survey. In total, 463 people provided a response to this question. This question had context and definitions in the online survey, but this information wasn’t provided to attendees at the stakeholder workshop. Hence when reading the responses from the stakeholder workshop in relation to this question it is important to keep in mind that these stakeholders were missing the important context and definitions.

This question was split into two parts. The full text of the first part was: “Should we be prioritising subcatchments?”, and the full text of the second part was: “If we were to prioritise subcatchments on what basis should this be done? (*you can pick more than one*)”. The first part of the question had a ‘yes/no’ response option. The second part of the question had four different non-exclusive ‘yes/no’ response options, as well as a follow up question with a comment box, “If this were to be done, how should it be achieved?”.

Some people chose to only answer the first or second parts of the question; others answered both. Table 41 shows the response to the first part of the question. There were 446 responses to the first part of the question. Tables 42 to 45 show the responses to the second part of the question. There were 438 responses to the second part of the question (some of which were multiple responses). The response options to the second part of the question where:

- subcatchments in which you can get the most environmental gain for the least cost should be prioritised (*Yes/No*)
- subcatchments which are the most ‘sensitive’ should be prioritised (*Yes/No*)
- subcatchments which are ‘hotspots’ should be prioritised (*Yes/No*)
- subcatchments which are the most degraded, i.e. some of the lakes, should be prioritised (*Yes/No*)

Table 41: Level of support for prioritising subcatchments

Event	Level of support for prioritising subcatchments		
	Yes	**No**	***Total***
Stakeholder workshop	103 (94%)	7 (6%)	***110***
Online survey	286 (85%)	50 (15%)	***336***
Total	**389 (87%)**	**57 (13%)**	***446***

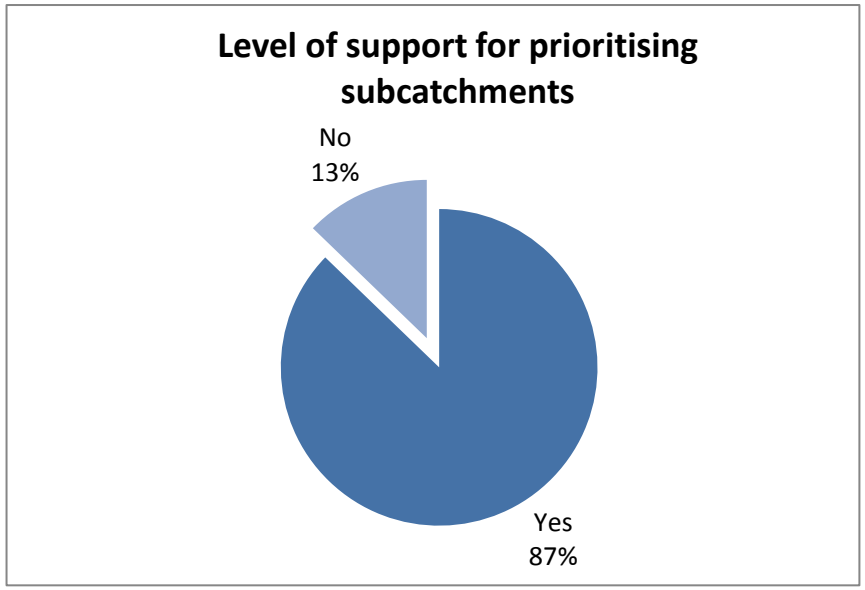


Table 42: Support for most gain for least cost prioritisation

Event	"Subcatchments in which you can get the most environmental gain for the least cost should be prioritised"		
	Yes	**No**	***Total***
Stakeholder workshop	91	5	***96***
Online survey	232	32	***264***
Total	**323**	**37**	***360***

Table 43: Support for most 'sensitive' catchments prioritisation

Event	"Subcatchments which are the most 'sensitive' should be prioritised"		
	Yes	**No**	***Total***
Stakeholder workshop	65	3	***68***
Online survey	192	30	***222***
Total	**257**	**33**	***290***

Table 44: Support for 'hotspot' catchments prioritisation

Event	"Subcatchments which are 'hotspots' should be prioritised"		
	Yes	**No**	***Total***
Stakeholder workshop	70	1	***71***
Online survey	226	23	***249***
Total	**296**	**24**	***320***

Table 45: Support for most degraded catchments prioritisation

Event	"Subcatchments which are the most degraded, i.e. some of the lakes, should be prioritised"		
	Yes	**No**	***Total***
Stakeholder workshop	60	8	***68***
Online survey	187	49	***236***
Total	**247**	**57**	***304***

Asked as part of the:

- online survey
- stakeholder workshop

18 What mitigations/actions are you prepared to undertake?

People attending the stakeholder workshop and responding to the online survey were asked two open ended questions near the end of each forum. The first question was: “From an individual perspective, what mitigations/actions are you prepared to undertake? Some example mitigations/actions include urban gully restoration, fencing off streams, paying targeted rates towards municipal wastewater treatment upgrades, septic tank upgrades, setbacks, constructed wetlands, land retirement, joining a catchment care group etc”. In total there were 676 comments made, most (533 or 79 per cent) via the online survey. Comments have been themed and are shown in Table 46.

The second open ended question was: “What are the challenges for you implementing mitigations/actions?”. There were 313 responses given with most 243 (78 per cent) via the online survey. Themed responses are shown in Table 47.

Table 46: Themed statements regarding what mitigations/ actions people are prepared to undertake, from an individual perspective.

Emerging theme	Theme counts		Total
	Stakeholder workshop	Online survey	
Comment on mitigations/ actions prepared to undertake	**117**	**470**	**587**
Fencing off streams	23	82	105
Constructed wetlands, land retirement	19	70	89
Paying targeted rates towards municipal wastewater treatment upgrades	13	62	75
Joining a catchment care group	11	57	68
Urban gully restoration	12	48	60
Setbacks	11	41	52
Septic tank upgrades	4	41	45
Riparian fencing/ planting	7	15	22
Planting	4	16	20
Water quality management	1	16	17
Stock management	7	8	15
Effluent management	2	4	6
Volunteer labour	1	5	6
Pest control	-	2	2
Sediment traps	1	1	2
Efficient/controlled fertiliser use	1	1	2
Weed eradication	0	1	1
Comment on implementation	**26**	**63**	**89**
Have already completed actions	11	30	41

Support required to undertake actions/ further education	6	11	17
Need more information	1	6	7
Everyone needs to get involved	5	2	7
Happy to be do whatever needs to be done	3	3	6
Doesn't apply to me	-	3	3
Won't make changes/ will continue doing what I am already doing	-	3	3
Only willing to take actions on own property	-	2	2
Negative comment about paperwork/ bureaucracy	-	1	1
Reassurance water quality will improve	-	1	1
Concern for financial implications	-	1	1
Totals	**143**	**533**	**676**

Table 47: Themed statements regarding challenges to implementing mitigations/ actions.

Emerging theme	Theme counts		
	Stakeholder workshop	Online survey	Total
Negative comment about the economic impact	**38**	**147**	**185**
Money/cost	32	116	148
Economic concerns for business	3	14	17
Resource availability	2	12	14
No incentive	1	3	4
Loss of land	-	2	2
Time	**9**	**47**	**56**
Comment about Healthy River Project	**13**	**27**	**40**
Buy in from everyone	6	6	12
Questions about Healthy Rivers/Wai Ora project	3	8	11
Already doing it/ already done	2	6	8
Unachievable targets	2	4	6
Don't know where to start	-	3	3
Lack of skills or knowledge	**10**	**16**	**26**
Lack of knowledge	6	9	15
Lack of skills	4	7	11
Bureaucracy	**-**	**6**	**6**
Totals	**70**	**243**	**313**

19 Glossary of terms

The complex and technical nature of Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai inevitably results in technical jargon and acronyms. To assist readers of this report, below is a non-exhaustive glossary of common terms and acronyms relating to this report and the wider project. Explanations are included and in some cases there is a link to further information to assist readers should they wish to learn more. This glossary has been updated from the first intensive engagement period to include terms and acronyms pertinent to the second intensive engagement period. For more information on a variety of matters relating to Healthy Rivers/Wai Ora a range of infosheets are available at www.waikatoregion.govt.nz/healthyriversinfo.

For further information on a range of scientific terms, the Land, Air, Water Aotearoa (LAWA) website www.lawa.org.nz/learn has an excellent glossary. A multitude of information and monitoring data for lakes and rivers can be found on Waikato Regional Council's website. Information on a range of factors of river water quality state and trends in the Waikato region is available at www.waikatoregion.govt.nz/Environment/Natural-resources/Water/Rivers/ and information about groundwater, lakes, stormwater and more at www.waikatoregion.govt.nz/Environment/Natural-resources/Water/.

Acronym	Term	Explanation
A		
	Activity class/status	The rules within a regional plan determine the class (status) of any particular activity. Sections 77A and 87A of the RMA describe the different types of activities that may be included in regional plans. These include permitted, controlled, restricted discretionary, discretionary, non-complying and prohibited.[1]
	Algae	Small, often microscopic plants. Freshwater algae grow in the water or on rocks on river beds and lake shores. Large quantities of algae are also called algal blooms.[2]
	Algal blooms	A rapid increase in the population of algae in a water body. Blooms can reduce the amount of light and oxygen available. Some types of algae may be toxic if ingested or can be an irritant to skin and eyes.[2]
	Allocation	A process whereby an amount of contaminants that may be discharged is divided and distributed to individuals, or groups of individuals, for their use.[3] There are many different allocation approaches that could be taken. Some of the approaches that were suggested by stakeholders include: average by catchment, average by sector, grandparenting and natural capital.

[1] Source: http://www.rotorualakes.co.nz/vdb/document/544
[2] Source: www.lawa.org.nz/learn
[3] Source: Land and Water Forum, 2015. *The Fourth Report of the Land and Water Forum*

	Ammonia	Ammonia (chemical formula NH3) is a gas and a common nitrogen-based contaminant that at high concentrations and under certain temperature and pH conditions is toxic to many species, particularly fish and invertebrates, and can affect their survival.[2,4]
	Aquifer	A geological layer of sand, gravel, or fractured rock that contains groundwater.[2]
ASR	Aquifer storage and recovery	Aquifer storage recovery (ASR) is a method for water management that involves storing water deep underground when it is available and recovering it when needed to meet water needs.[5]
	Attribute	Attributes are what we will measure in order to determine how healthy (or unhealthy) a water body is.[2]
	Attribute states/levels	Attribute states are numbers or narrative descriptions that convey a required level of an attribute to achieve a certain level of water quality health.[2]
	Average by catchment approach	This is an allocation approach whereby the total allowable load is divided up to give an average discharge per hectare. Landholders in the affected area get an equal share per hectare.[6]
	Average by sector approach	This is an allocation approach whereby the total allowable load is divided up between land use sectors and then divided up within each land use sector amongst the number of landholders or hectares.[6]
B		
	Bacteria	A category of microorganisms. Some bacteria can be potentially harmful to humans, such as *E.coli*.[2]
	Biodiversity	The variety of life in all living organisms at a given time in a given place. For example, healthy streams generally have a high biodiversity with many different species.[2]
	Blue-green algae	See *cyanobacteria*
BPO	Best practicable option	This concept refers to "the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to— 1) the nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and 2) the financial implications, and the effects on the environment, of that option when compared with other options; and 3) the current state of technical knowledge and the likelihood that the option can be successfully applied"[7]
C		
	Campylobacter	*Campylobacter* is a type of bacterium that can cause intestinal infections.[8]

[4] Source: Healthy Rivers/Wai Ora 2015 1st stakeholder workshop presentation (#3240949)
[5] Source: www.asrforum.com
[6] Source: Report to CSG – Initial allocation options to permit discharges of contaminants at a property level and the sharing of costs (#3109567)
[2] Source: www.lawa.org.nz/learn
[7] Source: http://www.legislation.govt.nz/act/public/1991/0069/latest/DLM230272.html
[8] Source: www.who.int/mediacentre/factsheets/fs255/en/

	Catchment	The total area of land draining into a river, reservoir, or other body of water.[2]
	Catchment care group	Catchment care groups, or landcare groups, are partnerships where local people work together to take action on local environmental issues. To see the care groups in the Waikato, click here - http://www.waikatoregion.govt.nz/Community/Your-community/Care-groups/Landcare-groups/Landcare-in-the-Waikato-region/
CWR	Catchment wide rules	Catchment wide rules are the bottom line which everyone would need to meet. These rules would focus on activities that can be managed at a catchment scale.[9]
	Cattle exclusion	See Stock exclusion
CEP	Community Engagement Plan	The CSG's Community Engagement Plan (CEP) sets out the course of action for the wider engagement process of the Healthy Rivers project. This includes proactively involving the communities who will be most affected by the plan change process. The current version of the CEP is available at www.waikatoregion.govt.nz/csg
	Chlorophyll A	Chlorophyll is a green pigment in plants that is used for photosynthesis and is a good indicator of the total quantity of algae present.[2]
	Collaboration	A collaborative process works with stakeholders to formulate solutions. In the Healthy Rivers project the CSG is where collaboration is most visibly present. The commitment the project partners have made to the CSG is that they will incorporate their recommendations to the maximum extent possible. This is consistent with the International Association for Public Participation spectrum, which can be found here – www.iap2.org.au/documents/item/84
	Community workshop	A community workshop is a way for stakeholders to learn more about the Healthy Rivers project and have an opportunity to provide feedback. Community workshops were a key part of the Healthy Rivers Intensive Engagement Period 2. Five of these were held in Tokoroa, Reporoa, Hamilton, Otorohanga and Tuakau.
	Concentration	Concentration is the amount of material (for example a pollutant) in a given unit volume of solution, usually measured and expressed in milligrams per litre (mg/L). This information can then be compared to water quality guidelines and tells you whether or not a stream is healthy.[2]
	Consent	See Resource Consent
	Contact recreation	Contact recreation is a term that covers two types of activities. Primary contact recreation refers to activities that involve full immersion, such as swimming. Secondary contact recreation refers to activities that have the potential for immersion or involve partial immersion, such as wading or boating.
	Contaminant	A pollutant that causes adverse change to a natural environment.[2]
	Controlled activity	Activities specified as controlled activities within the rules of a regional plan are activities which require a resource consent from the Regional Council, but which will always be granted by the Council.[1]
COP	Code of practice	A code of practice (COP) is a set of suggested procedures for achieving good management practices

[2] Source: www.lawa.org.nz/learn
[9] Source: Healthy Rivers/Wai Ora 2015 2nd stakeholder workshop presentation (#3590534)
[1] Source: http://www.rotorualakes.co.nz/vdb/document/544

	Critical source area	An area that accounts for the majority of contaminant loss from a field, farm or catchment despite occupying a minority of the field, farm or catchment's area.[3]
CSG	Collaborative Stakeholder Group	The Collaborative Stakeholder Group (CSG) represents stakeholders and the wider community in the Healthy Rivers Project. They are the central channel for engagement in the process. Check out this page to learn more about the group – www.waikatoregion.govt.nz/Council/Policy-and-plans/Plans-under-development/Healthy-Rivers---Plan-for-Change/Collaborative-Stakeholder-Group-/
	Culvert	Channel or conduit carrying water across or under a road, canal etc[10]
	Cumulative effects	Effects on a receiving water body which are caused by successive additions at different times or in different ways, such as inflows from the upstream section of that water body or inflows from another water body.[3]
	Cyanobacteria	A group of bacteria that can photosynthesise like true algae. Unlike freshwater algae, some species of cyanobacteria produce toxins.[2]
D		
	Deposited Sediment	Layers of fine sand, silt and clay that have settled on the bottom of a water body.[2]
	Diffuse discharge	*See non-point source discharge*
	Dioxins and Furans	Dioxins and Furans are the short name for a family of toxic substances that all share a similar chemical structure. Dioxins and Furans can cause a number of health effects including cancer and changes in hormone levels.[11] In most cases, very low levels are found in plants, water and air.[12]
	Discharge	Discharge, in this context, describes the release of contaminants into the environment either directly into water, or onto land.[2]
	Discretionary activity	Activities specified as discretionary activities within the rules of a regional plan are activities which require a resource consent from the Regional Council, but which the Council has retained its discretion as to whether it will grant the resource consent. These activities are those for which the Council retains full discretion [1]
DO	Dissolved Oxygen	The oxygen content of water. Dissolved Oxygen (DO) is important for fish and other aquatic life to breathe.[2]
E		
	Economic model	See Scenario model
	E.coli	*E.coli* (*Escherichia coli*) is a type of bacteria commonly found in the intestines of warm-blooded mammals (including people) and birds. *E.coli* naturally occurs in freshwater and is not usually harmful in itself, however, high concentrations of this bacteria can indicate faecal contamination which can be harmful to humans.[2]

[3] Source: Land and Water Forum, 2015. *The Fourth Report of the Land and Water Forum*
[10] Source: http://www.waikatoregion.govt.nz/Council/Policy-and-plans/Rules-and-regulation/Regional-Plan/Waikato-Regional-Plan/Glossary-of-Terms/
[11] Source: http://www.epa.gov/osw/hazard/wastemin/minimize/factshts/dioxfura.pdf
[12] Source: http://www.who.int/mediacentre/factsheets/fs225/en/
[1] Source: http://www.rotorualakes.co.nz/vdb/document/544
[2] Source: www.lawa.org.nz/learn

	Ephemeral	A stream that flows only briefly during and following a period of rainfall
F		
	Farm drainage canal	An artificial watercourse on a farm that contains no natural portions from its confluence with a river or stream to its headwaters, and includes a farm drain or a farm canal[10]
	Farm plan	See Tailored property plan
	Fish population measure	Fish population measures or stock assessments are a way to discover how fish populations have been affected. There are many ways to measure fish stocks.[13]
	Flow	Flow refers to the volume of water in the river flowing past a point in one second and is given in cubic metres of water per second (m^3/s).[2]
FMUs	Freshwater Management Units	Freshwater Management Units (FMUs) are defined in the NPSFM as "the water body, multiple water bodies or any part of a water body determined by the regional council as the appropriate spatial scale for setting freshwater objectives and limits and for freshwater accounting and management purposes".[14] FMUs are areas the catchment is divided into to help us better manage water.
	Furans	*See Dioxins and Furans*
G		
	Giardia	Giardia is a food and water borne disease that is passed on in the faeces of infected humans and animals. Giardia is common and can live in rivers and lakes for long periods.[15]
GMP	Good management practice	Good management practice refers to the evolving suite of tools or practical measures that could be put in place at a land user, sector and industry level to assist in achieving community agreed outcomes.[3]
	Grandparenting	This is an allocation approach whereby landholders are allocated a discharge right equal to the level of their discharge at a given point in time. If the total allowable load is smaller than the total of the historical discharges, methods to implement reductions must be undertaken.[6]
	Groundwater	Water that is found beneath the land surface in pores and fissures in rock and soil. Underground zones where groundwater accumulates are known as aquifers.[2]
H		
	Hapū	Te reo Māori for subtribe – this was the primary political unit in traditional Māori society.[16]
	Healthy Rivers Wai Ora Committee	The Healthy Rivers Wai Ora Committee is a committee of the Waikato Regional Council. The committee is a co-governance arrangement between the project partners and is comprised of 5 Iwi Governors and 5

[10] Source: http://www.waikatoregion.govt.nz/Council/Policy-and-plans/Rules-and-regulation/Regional-Plan/Waikato-Regional-Plan/Glossary-of-Terms/
[13] Source: https://www.niwa.co.nz/fisheries/our-services/stock-assessments
[2] Source: www.lawa.org.nz/learn
[14] Source: http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-freshwater-management-jul-14.pdf
[15] Source: https://www.health.govt.nz/your-health/conditions-and-treatments/diseases-and-illnesses/food-and-water-borne-diseases/giardia
[3] Source: Land and Water Forum, 2015. *The Fourth Report of the Land and Water Forum*
[6] Source: Report to CSG – Initial allocation options to permit discharges of contaminants at a property level and the sharing of costs (#3109567)
[16] Source: http://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=hapu

		WRC councillors. The committee will make decisions on the plan change based on recommendations from the CSG.
	Heavy metals	Any metal or alloy with a density higher than 5 grams per cubic centimetre. Usually even at low concentrations, heavy metals are toxic to most plants and animals.[2]
HRWO	Healthy Rivers / Wai Ora Project	The Healthy Rivers: Plan for Change / Wai Ora: He Rautaki Whakapaipai project (Healthy Rivers / Wai Ora Project or HRWO) is working with stakeholders to develop changes to the regional plan to help restore and protect the health of the Waikato and Waipa rivers, which are key to a vibrant regional economy. Check out this page for more information – www.waikatoregion.govt.nz/healthyrivers/
	Hotspots	An area in a catchment which contributes a large amount of contaminants and therefore is a priority area for management action.[17]
I		
	Indicators	In the Healthy Rivers project, indicators refer to a potential secondary set of measures for water quality health, along with attributes. Indicators would not have limits or targets associated with them.
IA	Integrated assessment framework	In the Healthy Rivers project, the integrated assessment framework looked at the potential cultural, economic, environmental and social impacts of a range of scenarios. [9] For more info see the infosheet at www.waikatoregion.govt.nz/healthyriversinfo
	Intensification	In the Healthy Rivers project, intensification refers to any increased contaminant losses as a result of a change in land use or as a result of a change in practices on an existing land use.
	Intensive engagement period 1	The Healthy Rivers intensive engagement period 1 took place from March to May 2015. Feedback from this engagement is available at www.waikatoregion.govt.nz/Council/Policy-and-plans/Plans-under-development/Healthy-Rivers---Plan-for-Change/Your-voice/
	Intensive engagement period 2	The Healthy Rivers intensive engagement period 2 took place from October-November 2015. The CSG led engagement via an open stakeholder workshop, community workshops and an online survey.
J		
K		
	Kaitiakitanga	Te reo Māori for the processes and practices of guardianship protecting and looking after the environment.[2]
	Koi carp	Koi carp are a strain of the common carp and are considered a pest fish in New Zealand. When they feed they stir up the bottom of water bodies, destroying native plant and fish habitats.[18]
L		

[17] Source: Healthy Rivers Online Survey 2
[9] Source: Healthy Rivers/Wai Ora 2015 2nd stakeholder workshop presentation (#3590534)
[2] Source: www.lawa.org.nz/learn
[18] Source: http://www.doc.govt.nz/nature/pests-and-threats/animal-pests/animal-pests-a-z/fish/koi-carp/

LAWF	Land and Water Forum	The Land and Water Forum brings together a range of stakeholders consisting of industry groups, electricity generators, environmental and recreational NGOs [non-government organisations], iwi, scientists, and other organisations with a stake in freshwater and land management. They are joined by central and local government participants in developing a common direction for freshwater management in New Zealand and provide advice to the Government.[19]
LUC	Land Use Capability	Land Use Capability (LUC) classification is a method whereby land is categorised into eight classes according to its long term capability to sustain one or more productive uses.[20]
	Leaching	The process by which contaminants are filtered through soil by water and often end up in rivers, streams, lakes and groundwater.[2]
	Limit	The National Policy Statement for Freshwater Management (NPSFM) defines a limit as the maximum amount of resource use available, which allows a freshwater objective to be met. Different water bodies may have different limits set according to how they are used.[2]
	Load	Load is the total amount of material (such as pollutant) entering the system from one or multiple sources. It is measured as a rate in weight per unit time, such as tonnes per year or kilograms per day. Loads are calculated by multiplying the concentration of material by the discharge. [2]
M		
	Macrophytes	Large water plants and algae that live in freshwater and are visible to the naked eye. Macrophytes can be either submerged, floating or emergent.[2]
	Mahinga Kai	Te reo Māori for indigenous freshwater species that have traditionally been used as food, tools or other resources.[2]
	Mauri	Te reo Māori for a life principle, special nature and source of emotions. [2]
MAS	Minimum Acceptable State	Minimum Acceptable State (MAS) is defined in the NPSFM as "the minimum level, specified in Appendix 2, at which a freshwater objective may be set in a regional plan in order to provide for the associated national value".[14]
	Mātauranga Māori	The body of knowledge originating from Māori ancestors, including the Māori worldview and perspectives, Māori creativity and cultural practices. Mātauranga Māori embraces individual, local and collective knowledge, Māori values, cultural expressions, perspectives, observations, being traditional, historical and contemporary. [4]
	Macroinvertebrates	Organisms without a backbone but large enough to be visible to the naked eye, e.g. insects, worms.[2]
MCI	Macroinvertebrate Community Index	The Macroinvertebrate Community Index (MCI) is an index where macroinvertebrates are used for monitoring stream health. The MCI assigns a score to each species based on its tolerance to organic

[19] Source: http://www.landandwater.org.nz/Site/About_Us/default.aspx
[20] Source: http://www.landcareresearch.co.nz/publications/books/luc
[2] Source: www.lawa.org.nz/learn
[14] Source: http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-freshwater-management-jul-14.pdf
[4] Source: Healthy Rivers/Wai Ora 2015 1st stakeholder workshop presentation (#3240949)

		pollution, from 1 (very tolerant) to 10 (very sensitive). The MCI then calculates the average score of all species present at a site.[2] A higher MCI score indicates a healthier water body.
	Microbes	Microbes (or Microorganisms) are tiny organisms that live abundantly in various environments, including water. Most microbes belong to one of four categories: bacteria, viruses, fungi or protozoa.[21]
	Mitigation(s)	In the Healthy Rivers project, mitigations refer to a range of practices that can help to improve water quality. Some examples of mitigations can be found here: http://www.waikatoregion.govt.nz/menus/
MMOL	Multiple Māori owned land	In pre-European times, Māori Land was communally owned, based on traditional Māori custom.[22] Thus this term refers to land that is collectively owned by multiple Māori interests.
N		
	Natural capital	Natural Capital can be defined as the world's stocks of natural assets, this includes geology, soil, air, water and all living things[23]
	Natural capital approach	This is an allocation approach whereby the total allowable load is divided up between landholders based on the underlying characteristics of the land and/or the land's capacity to assimilate contaminant losses.[6]
	Nitrate	A highly soluble compound of nitrogen and oxygen with the chemical formula NO3-. Nitrate is toxic to some species at very high concentrations and can affect their growth.[2]
	Nitrogen	Nitrogen is a chemical element with the symbol N. It can take several forms (nitrate, nitrite, ammonia and organic nitrogen). Nitrogen is a great fertiliser but too much of it can cause weeds and algae to grow too fast. This increased weed growth reduces oxygen in the water, posing a threat to aquatic life.[2]
NOF	National Objectives Framework	A national framework which guides regional decision-making in the setting of freshwater objectives (and subsequent limits). The National Objectives Framework contains 'national bottom lines' for attributes relating to two 'compulsory' values: ecosystem health and human health for recreation.[2]
	Non-complying activity	Activities specified as non-complying activities within the rules of a regional plan are activities which require a resource consent from the Regional Council, but which the Council may only grant if the consent application meets RMA threshold criteria and the objectives and policies of the regional plan.[1]
	Non-point source discharge	Pollutants sourced from widespread or dispersed sources such as from pasture runoff of animal wastes, fertiliser and sediments, as well as runoff of pollutants from paved surfaces in urban areas. The term also covers the pollution that comes from an eroding river bank or seepage of soluble pollutants into groundwater. Non-point source discharges are also known as diffuse discharges.[2]
NPSFM	National Policy Statement for Freshwater	The National Policy Statement for Freshwater Management 2014 (NPSFM) sets out the objectives and policies for freshwater management.[9] The NPSFM requires regional councils to manage water quality by

[2] Source: www.lawa.org.nz/learn
[21] Source: www.niaid.nih.gov/topics/microbes/pages/default.aspx
[22] Source: http://www.oag.govt.nz/2004/maori-land-court/part2.htm
[23] Source: http://naturalcapitalforum.com/about/
[6] Source: Report to CSG – Initial allocation options to permit discharges of contaminants at a property level and the sharing of costs (#3109567)
[1] Source: http://www.rotorualakes.co.nz/vdb/document/544

	Management 2014	setting objectives, limits and targets for all water bodies. [4]
O		
	Online survey	The Healthy Rivers Online Survey 2 was a survey that ran from 28 October to 13 November 2015 during the Healthy Rivers Intensive Engagement Period 2.
OSW	Open Stakeholder Workshop	An all inclusive event that involves a large, diverse group of stakeholders engaging in a facilitated session.
	OVERSEER®	OVERSEER® is a nutrient budgeting tool that supports farmers and growers to improve performance through better use of nutrients on farm and to reduce losses to the environment.[24]
P		
	Perched culvert	A perched culvert is one with an outlet elevated above the downstream water surface.
	Perennial stream	A stream that flows all year round assuming average annual rainfall.[10]
	Periphyton	Periphyton is the mix of algae, fungi, and bacteria that grow on the beds of our rivers, lakes and streams and turn dissolved nutrients into nutritious food for invertebrates.[2]
	Permitted activity	Activities specified as permitted activities within the rules of a regional plan can occur 'as of right' without the need to obtain a resource consent, provided they comply with the conditions stated in the rule.[1]
	Pest fish	Pest fish, including such fish as koi carp and catfish, are introduced species that have an impact on our water bodies. Amongst other effects pest fish can stir up sediment, increase nutrient levels, contribute to erosion and compete with native species. Once established, pest fish are very difficult to remove because they are able to spread through a whole river catchment.[25]
	pH	The degree of acidity or alkalinity as measured on a scale of 0 to 14 where 7 is neutral, less than 7 is more acidic, and greater than 7 is more alkaline. In the absence of contaminants most water bodies maintain a pH value that varies only a few tenths of a pH unit.[2]
	Phosphorus	Phosphorus is an element with the symbol P and is naturally present in water in low concentrations. When phosphorus levels increase to very high levels, the waterway is likely to experience rapid weed growth or an algal bloom.[2]
	Phytoplankton	Microscopic algae and cyanobacteria that drift or float in the water column and are able to produce oxygen through photosynthesis.[2]
	Plan change	*See Healthy Rivers / Wai Ora Project*
	Planktonic cyanobacteria	*See cyanobacteria*

[9] Source: http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-freshwater-management-jul-14.pdf
[4] Source: Healthy Rivers/Wai Ora 2015 1st stakeholder workshop presentation (#3240949)
[24] Source: http://overseer.org.nz/
[10] Source: http://www.waikatoregion.govt.nz/Council/Policy-and-plans/Rules-and-regulation/Regional-Plan/Waikato-Regional-Plan/Glossary-of-Terms/
[2] Source: www.lawa.org.nz/learn
[1] Source: http://www.rotorualakes.co.nz/vdb/document/544
[25] Source: http://www.doc.govt.nz/nature/pests-and-threats/animal-pests/animal-pests-a-z/fish/

	Point source discharge	Discharge of contaminants into a water body from a single fixed point, such as a pipe or drain from sewerage, factory and dairy shed outfalls.[2] Point source discharges, by nature, are much easier to identify than non-point source discharges.
	Polluter pays principle	The polluter-pays principle is the principle according to which the polluter should bear the cost of measures to reduce pollution according to the extent of either the damage done to society or the exceeding of an acceptable level (standard) of pollution.[26]
	Prohibited activity	Activities specified as prohibited activities within the rules of a regional plan may not occur and no resource consent can be granted for these activities.[1]
	Project Partners	The Healthy Rivers project is a co-governance/co-management project between Waikato Regional Council and Waikato and Waipa River Iwi. The project partners are Maniapoto Māori Trust Board, Raukawa Charitable Trust, Te Arawa River Iwi Trust, Tūwharetoa Māori Trust Board, Waikato Raupatu River Trust and Waikato Regional Council.
	Property plan	See Tailored property plan
	Protozoa	A category of microorganisms. *See microbes*
PSC	Policy Selection Criteria	The Policy Selection Criteria (PSC) are the filters the CSG will use to choose between different policy options.http://www.waikatoregion.govt.nz/PageFiles/36829/Draft%20policy%20selection%20criteria.pdf
Q		
R		
	Regional economic model	See Scenario model
	Resource consent	A resource consent is the authorisation from a local council for an activity that has a rule or rules applying to it in a district or regional plan because it might adversely affect the environment.[27]
RMA	Resource Management Act	The Resource Management Act 1991 (RMA) is New Zealand's main piece of environmental legislation and provides a framework for managing the effects of activities on the environment. [27]
	Restricted discretionary activity	Activities specified as discretionary activities within the rules of a regional plan are activities which require a resource consent from the Regional Council, but which the Council has retained its discretion as to whether it will grant the resource consent. Restricted discretionary activities are those for which the Council has restricted the exercise of its discretion to a limited range of matters.[1]
	Riparian	A strip of land that is directly adjacent to a water body and which contributes to maintaining and enhancing the natural functioning, quality, and character of the water body.[2]
	Riparian planting	Planting along the banks of rivers and streams to reduce erosion and pollutant runoff to the waterway.[3]

[26] Source: https://stats.oecd.org/glossary/detail.asp?ID=2074
[1] Source: http://www.rotorualakes.co.nz/vdb/document/544
[27] Source: http://www.mfe.govt.nz/rma/about-rma/glossary-rma-terms
[2] Source: www.lawa.org.nz/learn
[3] Source: Land and Water Forum, 2015. *The Fourth Report of the Land and Water Forum*

ROC	Return on capital	Return on capital is a profitability ratio. It measures the return that an investment generates relative to capital contributions. Return on capital indicates how effective a firm is at turning capital into profits.[28]
S		
	Scenarios	In the Healthy Rivers project scenarios refer to possible futures. The CSG developed a range of scenarios. The TLG provided the implications for each scenario through scenario modelling and the integrated assessment framework. Using this information, and the Policy Selection Criteria, the CSG will evaluate potential policy options.[9]
	Scenario model	Scenario modelling provides the CSG with information on the optimal (least cost) package of changes on the land required to meet the various water quality scenarios the CSG is exploring. It also provides information on the potential economic impacts of the changes.[29] The scenario model itself comprises of several models: a water quality model, a catchment level economic model and a regional economic model.[9] For more on scenario modelling and the scenarios the CSG had modelled, check out the scenario modelling infosheet: http://www.waikatoregion.govt.nz/PageFiles/40248/Scenario%20modelling.pdf
s32	Section 32 of the RMA	Section 32 (s32) of the Resource Management Act 1991 (RMA) provides a process for the critical evaluation of planning policy and proposals.[30] A s32 evaluation is required for the Healthy Rivers project as it involves a change to the Waikato Regional Plan.
	Sediment/silt trap	Artificial sediment traps are excavations in the bed of a watercourse that capture and reduce the downstream movement of gravel, sand, and course silt (very fine sediment will continue downstream).[31]
	Sensitive	By 'sensitive' subcatchments we mean waterbodies in a catchment which respond more than other waterbodies when they receive a similar amount of contaminants.[17]
	Septic tank	A septic tank is a watertight box, usually made of concrete or fiberglass, with an inlet and outlet pipe and is an essential part of a household underground wastewater treatment system.[32]
	Setback	A minimum buffer from the bank of a waterway in which certain activities are not allowed to occur.[9]
	Sediment	Sediment refers to the small bits of soil, plant and/or animal matter that are transported by water, either in suspension or by movement in the river bed. Fine sediment can fill up the small spaces between rocks and make the habitat unsuitable for fish and macroinvertebrates to live in.[2]
	Social disruption	A term to describe a forced adjustment from a way of life that has negative social or community impacts, such as reduced number of community facilities or less local employment opportunities.

[28] Source: http://www.investinganswers.com/financial-dictionary/ratio-analysis/return-capital-3054
[9] Source: Healthy Rivers/Wai Ora 2015 2nd stakeholder workshop presentation (#3590534)
[29] Source: http://www.waikatoregion.govt.nz/PageFiles/40248/Scenario%20modelling.pdf
[30] Source: http://perceptionplanning.co.nz/a-new-view-of-s32-better-rma-plan-making-2/
[31] Source: http://www.dairynz.co.nz/media/254172/5-9_sediment_traps_2012.pdf
[17] Source: Healthy Rivers Online Survey 2
[32] Source: http://www.nesc.wvu.edu/subpages/septic_defined.cfm
[2] Source: www.lawa.org.nz/learn

	Stock exclusion	Refers to keeping cattle, deer and other stock out of waterways. In the Healthy Rivers project the thinking, at the time of writing, is that sheep would not be included in a stock exclusion rule.[9]
	Stocking rate	Ratio of stock to hectares
	Stormwater	Rainwater run-off that is channelled through drains from roads and properties into water bodies.[2]
	Sub-catchment	A section or part of a larger catchment. *See catchment*
SPI	Submerged Plant Index	The Submerged Plant Index (SPI) is a way of measuring macrophytes in lakes. The SPI can be used to assess, monitor and report on the ecological conditions of lakes.[33]
	Survey	*See Online Survey*
	Suspended Sediment	Particles of silt, clay, or organic matter suspended in the water column.[2]
SDWA	Sustainable Dairying: Water Accord	The Sustainable Dairying: Water Accord is a set of national good management practice benchmarks aimed at lifting environmental performance on dairy farms.[34]
T		
TPP	Tailored property plan	A tailored property plan is a tool for understanding a given property's environmental impacts. The basic requirements of a property plan are base information (such as a property map, soil info and management blocks), actions (agreed tasks to reduce contaminant losses) and a timeframe (agreed targets for achieving actions). A tailored property plan allows for a landholder to consider what actions best suit their property.[9]
	Tannins	Tannins occur naturally and, where present, can stain water. For example the headwaters of the Waipa River are stained from by tea-coloured tannins from bush and wetlands.[35]
	Target	The National Policy Statement for Freshwater Management (NPSFM) defines a target as a limit which must be met at a defined time in the future.[9] Targets are timeframes in which limits must be met by. Different water bodies may have different targets.
	Technical Alliance	In the Healthy Rivers project, the Technical Alliance is a group of technical experts that will provide information about the rivers and different land management scenarios. The Technical Alliance comprises of the Technical Leaders Group (TLG) and the Technical Support Group (TSG).[4]
TLG	Technical Leaders Group	In the Healthy Rivers project, the Technical Leaders Group (TLG) provides technical information and advice to the CSG and the project partners. The TLG, with the support of the TSG, will collate, summarise, analyse and present technical information.[4]
TA	Territorial Authority	A territorial authority is a city council or district council.[36]
TN	Total Nitrogen	Total Nitrogen (TN) is a measure of all organic and inorganic forms of nitrogen that are found in a sample.

[9] Source: Healthy Rivers/Wai Ora 2015 2nd stakeholder workshop presentation (#3590534)
[33] Source: https://www.niwa.co.nz/our-science/freshwater-and-estuaries/lakespi-keeping-tabs-on-lake-health/how-lakespi-works/lakespi-method-summary
[2] Source: www.lawa.org.nz/learn
[34] Source: http://www.dairynz.co.nz/environment/in-your-region/sustainable-dairying-water-accord/
[35] Source: http://www.waikatoregion.govt.nz/Environment/Natural-resources/Water/Rivers/Waipa-River/How-clean-is-the-Waipa-River/
[9] Source: http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-freshwater-management-jul-14.pdf
[4] Source: Healthy Rivers/Wai Ora 2015 stakeholder workshop presentation (#3240949)
[36] Source: http://www.stats.govt.nz/methods/classifications-and-standards/classification-related-stats-standards/territorial-authority/definition.aspx

		High TN enriches water bodies with nutrients and cause algal blooms.[2]
TP	Total Phosphorus	Total Phosphorus (TP) is a measure of all forms of phosphorus that are found in a sample, including dissolved and particulate, organic and inorganic. High levels of TP in water bodies can encourage the growth of nuisance plants such as algal blooms.[2]
TRH	Te Rōpū Hautū	Te Rōpū Hautū (TRH) is the project steering group. TRH is comprised of executives from Waikato and Waipa River Iwi, WRC and the WRA. TRH provides project overview and direction.[2]
	Tributaries (Tribs)	A stream or river that flows into a main stem river or a lake rather than directly into a sea or ocean.[2]
	Trophic state	Trophic state is a measurement of water quality for lakes that highlights the nutrient status of a water body.[37] Waikato lakes range in trophic state from Oligotrophic lakes (clear and blue, e.g. Lake Taupo) to Hypertrophic lakes (supersaturated in phosphorus and nitrogen, e.g. Lake Hakanoa).
TSG	Technical Support Group	In the Healthy Rivers project, the Technical Support Group (TSG) is a group of technical experts who are available to support the technical work of the TLG.[4]
	Turbidity	Turbidity is an index of cloudiness of water. It measures the scattering of light caused by fine particles in our water bodies.[2]
U		
V		
V & S	Vision and Strategy / Te Ture Whaimana	The Vision and Strategy for the Waikato River/Te Ture Whaimana o Te Awa o Waikato (V&S) is the primary direction setting document for the Waikato and Waipa rivers. The V&S is set by the WRA. The Vision "is for a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come".[38] To read the V&S in full see: http://versite.co.nz/~2013/16230/#1
W		
	Wastewater	A by-product of sewage, liquid trade waste collection, and treatment processes.[2]
	Water body	A river, lake, stream, pond, wetland, or groundwater.[2]
	Water clarity	Water clarity refers to the ability of light to travel through water and has two important aspects: light penetration and visual clarity. Light penetration is important as it controls the amount of light in the water needed for aquatic plants to grow. Visual clarity indicates how much suspended sediment is in the water.[2] Water clarity is proposed to be an attribute for the Healthy Rivers project.

[37] Source: https://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/Protocol%20for%20monitoring%20trophic%20levels%20of%20New%20Zealand%20lakes%20and%20reservoirs.pdf
[4] Source: Healthy Rivers/Wai Ora 2015 stakeholder workshop presentation (#3240949)
[2] Source: www.lawa.org.nz/learn
[38] Source: http://www.waikatoriver.org.nz/about-the-waikato-river-authority/purpose/

	Wetland	A wetland, as defined by the RMA, "includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions."[3]
	Working list of values and uses	The CSG's working list of values and uses lists the outcomes communities want to achieve from freshwater management. Freshwater will be managed to achieve these values and uses. [4]
WRA	Waikato River Authority	The Waikato River Authority (WRA) is the custodian of the Vision and Strategy. In addition to safeguarding the importance of the V&S the WRA also funds projects that contribute to restoring and protecting the health and wellbeing of the rivers and their catchments.[38]
WRC	Waikato Regional Council	The Waikato Regional Council (WRC) is the local government body that is tasked with the governance and management of natural resources and regional scale planning for the Waikato region.[39]
WRISS	Waikato River Independent Scoping Study	The Waikato River Independent Scoping Study (WRISS) was a project that identified priority actions and the associated costs of those actions necessary to rehabilitate the health and wellbeing of the Waikato River and its tributaries, wetlands and lakes for future generations.[40]
Y		
Z		

[3] Source: Land and Water Forum, 2015. *The Fourth Report of the Land and Water Forum*
[4] Source: Healthy Rivers/Wai Ora 2015 stakeholder workshop presentation (#3240949)
[38] Source: http://www.waikatoriver.org.nz/about-the-waikato-river-authority/purpose/
[39] Source: http://www.waikatoregion.govt.nz/PageFiles/35302/AboutWaikatoRegionalCouncil.pdf
[40] Source: https://www.niwa.co.nz/freshwater-and-estuaries/research-projects/waikato-river-independent-scoping-study-wriss