I do wish to be heard in support of my submission; and if so, I would be prepared to consider presenting my submission in a joint case with others making a similar submission at any hearing.

I could gain an advantage in trade competition through this submission.

Signature  Date: 1 August 2016

Approach and overview upto page 21

My submission is structured as per the plan, with first a general overview and comments re up to page 21, then Objectives, Policies and Rules in that order. I will state at the start of each Rule whether I support, oppose, seek amendment or provide comment. I can be contacted for further information.

I may like to add further comment when I speak to my submission and have tagged some sections with <further comment>

Reviews

Will reviews of this plan be possible in light of the ongoing environmental, social and technological changes – predictions are fraught, especially when they concern the future.

Innovation and rapid change

How enabling of innovation is the new plan, and how does it allow response to rapid change? I am concerned that with so much change – climactic and technological - that a minimal standards approach locked into a 10-15 year plan will stifle innovation in the face of disruptive change. <further comment>

Limits versus targets

There is too much focus in L+W2016 on minima, thresholds and limits rather than targets and goals. Why not incentivise environmental performance by setting targets backed by say rates relief, consent fees relief etc. Council seems to be starting on a profit-path rather than protecting the environment and facilitating society and business.

Maps

These are very hard to use, what about a grid, plus legal lot lines to make it easier to see where one is. This blank-map approach makes land users dependant on council and/or consultants. Pdfs are getting pretty intelligent now with layer controls and such – time to start using some of this technology.
Phosphate detection

What about using phosphate detection methods that detect more phosphate (there are at least 16 methods; Olsen is optimised for super and thus detects only a fraction of total P). Phosphate is a very finite resource and represents a hard limit for farming – we should be treating it like gold.

Black Box / open data

While I fully realise the plan is backed by a robust science base some items suggest decisions may still be arbitrary. Certainly much of the information is published – to prevent challenges Council should ensure all models, algorithms and the data they are based on available and have been published.

Wording, terminology and jargon

Good management should be replaced with 'best management practice, as this is a recognised term common to environmental science culture and literature. Best is a term about quality whereas 'good' is meaningless in this context.

Jargon and specialist language is a barrier to understanding:
Substituting Mean Annual Low Flow with Q95 doesn't seem to improve reader understanding.

Setbacks

Three width controls are better than one but this is still a very blunt instrument and one which I fear will have little real effect except removing valuable land from production. What is needed is the ability to choose between this approach and a site-specific solution. For instance lidar / surface scan to enable site-specific setback design tailored to soil, climate and crop/s. This process does exist as a number of methods; some fully manual, on-the-ground methods based on simple proven rules-of-thumb through to various levels of GIS approaches which are semi-automated.

I am aware of a number of cases from pastoral cropping, field crops and forestry, where when a variable width buffer approach was applied, land taken up in buffer area was 30 to 50% less than with a fixed width approach. At the same time environmental mitigation is proven with these approaches.¹

Composting and separation septic systems

While there is focus on traditional septic systems will you consider making it easier to install composting systems? – these have no impact on natural systems as they have no ground emissions.

Catchment mismatch

The (apparently common) incidence of a mismatch between the groundwater catchment and the surface water catchment (Bidwell et al., 2008) does not appear to have been considered in this plan. I have extensively searched Environment Southland reports for mention of this phenomenon and have found nothing, not even a citation. As this becomes known it may lead to challenges where a landowner states that the runoff can’t be from their land.

Chemicals not from agrichemical sources

Phthalates (plastic softeners as used in agricultural wrapping – proven hormone mimics) appear to be missing from control list.
Treated timber leaching from fenceposts – this is a recognised issue in several parts of NZ e.g. Marlborough wine country where leachates restrict soil microbial processes.

Objectives

There seem to be far too many objectives and a lot of duplication / overlap. A number of objectives would seem suited to folding into one e.g. 1+2, 3-5. Landowners and consultants are very busy people and this just requires far too much reading (in more technical language the signal to noise ratio is low).

Each objective that I address is listed below in italics with comment in plain text below each. I have reworded some objectives in order to understand them; some are far too convoluted and it is hard to discern what they really mean.

7 Any further over-allocation of freshwater (water quality and quantity) is avoided and existing over-allocation is phased out in accordance with timeframes...

Oppose
Why can't over-allocation be just shut down? - It is after all a loan from an already depleted and finite resource.

8 that:
(a) The quality of water in aquifers that meet both the Drinking-Water Standards for New Zealand 2005 (revised 2008) and any freshwater objectives, including for connected surface water bodies, established under Freshwater Management Unit processes is maintained; and
(b) The quality of water in aquifers that have been degraded by land use and discharge activities (with the exception of those aquifers where ambient water quality is naturally less than the Drinking-Water Standards for New Zealand 2005 (revised 2008)) is improved.

Amend
This section is extremely vague. Where standards are cited / mentioned an outline of the standards should be published here so we don't have to read (or buy) yet another document! It needs to be borne in mind that NZ Standards are very costly – an example of closed / restricted information.

11 states that: Water is allocated and used efficiently.

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Comment
What about low flows and climate-event response flows and planning for such events.

I have previously contacted Environment Southland about the development of a rational method to decide on allocations for irrigation especially in highly-allocated areas. I have never heard back but I believe water allocation (in some physiographic zones) should be based on a meaningful metric such as added market value, or protein content – there has to be some rational way of valuing water and adding environmental protection. For instance irrigating in zones with severe water deficits is wasteful. This could also be a robust method where controls could be introduced to sensitive (e.g. high P loss) catchments

<further comment>

12 states that: Groundwater levels, and minimum surface water flows where these are derived from groundwater, are maintained.

Comment
Is the monitoring network dense enough to model GW levels within levels that will protect key catchment metrics?

16 states that: Public access to river and lake beds is maintained, except in circumstances where public health and safety are at risk.
Comment
In light of the recent H&S Act one hopes that Council will act in favour of the People.

17 states that: The natural character values of wetlands, rivers and lakes including channel form, bed rapids, seasonably variable flows and natural habitats, are protected from inappropriate use and development

Amend
These attributes of freshwater bodies should not be all lumped together; protecting some attributes could arguably have a higher benefit than others. Some of these habitats are also very rare / unique where others may be more common, eg vernal pools / seasonally variable wetlands.

18 states that: All activities operate at 'good (environmental) management practice' or better to optimise efficient resource use and protect the region's land, soils, and water from quality and quantity degradation.

Amend
Use 'best' management practice, as it is a recognised term, a term about quality whereas 'good' is meaningless in this context.

<further comment>

Policies

10 Agrichemicals

Amend
Glyphosate breakdown products need to be controlled at as they damage many mycorrhizal associations – this is meaningful as mychorizza are known to retain about 8% of soil P at any one time and are vital in P cycling and plant growth
25 cultivated ground and slope

Comment
Urine separation is now possible with these systems and needs to be taken into account

28 waterless ww

Comment
Urine separation is now possible with these systems and needs to be taken into account

76 Vegetation planting

Comment
Innovation will occur in this area which will change how riparian schemes are designed from fencing design to maintenance.

App F mataura River
Support
This is well-worded and (at least without a deep reading) appears direct – it would ideal if this was the approach taken with all of Southland's waterbodies.
Appendix L.2 stream depletion effects

There is too much reliance on models here, rather than real (or even just daily)-time monitoring of water levels (which is becoming simpler all the time), this regime could easily lead to a dry bed - at least in txt so far read

waterbodies characterised as ephemeral will be excluded from consideration of stream depletion effects;
Oppose / Amend
Ephemeral streams in many catchments represent a greater stream length than flowing waters. By not targeting ephemeral streams significant levels of target pollutants will be missed and flow on to pollute freshwater bodies and the ocean.

stream depletion effects due to groundwater abstraction should not result in a more than minor effect on the frequency, extent and duration of flow loss in intermittent waterbodies;
Amend
Who decides on what 'minor' means? 'minor' needs a scientic definition.
How is cumulative effect taken into account?
How responsive will any controls be to climatic extremes? Will there be a way to control takes during climate events? Once a river is dead, they tend to be hard to bring back to life.