

PROCESS AND OUTCOMES OF THE NITROGEN ALLOCATION REFERENCE GROUP (NARG) FOR SOUTH CANTERBURY COASTAL STREAMS (SCSS) AREA

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Introduction

The Canterbury Regional Council has embarked on a comprehensive planning project to set rules that will meet community expectations, be consistent with the values and principles of the Canterbury Water Management Strategy (CWMS) and set in place policy and a framework to improve water quality where that is a need and allow for economic development without compromising environmental, recreational, and cultural values. The proposed Land and Water Regional Plan (LWRP) provides the default regulatory framework, Plan variations manifest “local decisions by local communities” which are managed by the 10 Zone Committees operating in each of the 10 sub-regions through a collaborative process to develop local rules for local areas.

The regional LWRP is the default set of rules for Canterbury, and sub-regional variations or chapters will allow sub-regions to establish a set of rules that take precedence over the LWRP. The LWRP nutrient rules are based on grand-parenting, where high emitters are not permitted to leach higher amounts of nutrients, and low emitters may increase their losses in certain cases.

The LWRP has identified nutrient allocation zones within Canterbury where water quality does not meet the standards prescribed in the National Policy Statements and Objectives (red zone) or is a very high risk of not meeting them (sensitive lake zone). The plan also identifies nutrient allocation zones where water quality is acceptable and further intensification of farmland may occur (orange zone – at risk; green zone –less at risk; light blue zone – not classified).

Sub-regional rules developed through a collaborative process managed by zone committees may contain rules that are at variance to these, as long as they are consistent with the principles and policies of the LWRP. They may prescribe load limits for catchments; how these limits may be allocated amongst different farming types and soil types; and what tools farmers should utilise to better manage nutrient, soil and microbial losses from land.

South Canterbury Coastal Streams

The South Canterbury Coastal Stream (SCCS) area spans from the Otaio catchment in the north to Morven Catchment in the South and to the Hunter Hills in the west. SCCS is one part of the Lower Waitaki Zone with unique issues requiring distinct rules to manage their environmental effects while allowing for economic development and maintenance and

restoration of other community values of the CWMS. The SCCS has been further divided into three areas to manage fresh water quality.

- Northern Streams Area including the Otaio river to the Makikihi River and is characterised by rivers flowing directly into the Pacific Ocean.
- Waihao-Wainono Area which include the Hook River to the Waihao River and the Wainono Lagoon. All the streams and rivers have a connection with the Wainono Lagoon.
- Morven-Sinclairs Area which includes Morven Drain and Sinclairs Creek catchments that flow directly into the Pacific Ocean. The majority of landowners are shareholders in the Morven-Glenavy Irrigation Scheme.

The SCCS area contains red, orange and green nutrient allocation zones under the pLWRP. Water use, land intensification and irrigation have increased significantly in this area and water quality is at risk or beyond acceptable limits in many streams and in ground water aquifers.

Development of the Sub-regional Plan for SCCS

The intention of the Zone Committee is to provide rules for the SCCS through the Zone Implementation Plan (ZIP) addendum to allow for some further intensification of farming and economic development in agriculture, while demanding restrictions on nutrient losses and the adoption of Good Management Practices (GMPs). Reducing losses and augmenting stream flows will provide for enhanced water quality in the streams and receiving waters such as the Wainono Lagoon. Further consideration in the rules includes consideration for further intensification with the proposed Hunter Downs Irrigation Scheme and Waihao Downs Irrigation Scheme.

The development of the draft Zone Implementation Plan for the SCCS consisted of four phases¹:

Phase I - The original planned development culminating in a ZIP Addendum that documented a preferred approach.

Phase II – Receiving community protest and developing a way forward

Phase III - Setting up further collaboration with the local community and establishing the common understanding necessary to develop an agreed solution.

Phase IV - Arriving at final consensus

Phase I- Planned Development

Plan development began in late 2012 with the Lower Waitaki Zone Committee and ECan running collaborative community consultation meetings looking at future scenarios and possible solutions for land and water management in the SCCS area. These were supported by technical information, facilitated break-out groups at the collaborative meetings and good attendance from local farmers and other community members. By February 2014 the Zone Committee had prepared a Draft Zone Implementation Programme Addendum (ZIP

¹ Norton et al, 2015, “*Process and Outcomes of the Nitrogen Allocation Reference Group (NARG) for South Canterbury Coastal Streams (CSSC) Area*” (Draft)

Addendum) that documented a preferred approach. This included, amongst other actions, draft catchment Nitrogen load limits and a Nitrogen allocation framework.

Phase II – Initial Outcomes not accepted

A group of about 80 farmers attended the Zone Committee meeting on 19 February 2014, where the Zone Committee was considering the Draft ZIP Addendum for sign-off and for forwarding to the ECan Commissioners for approval. The local farmers protested the process, the inequity between high emitters and low emitters with the proposed allocation method, and lack of time to understand the options for nutrient allocation. They requested that sign-off on the Draft ZIP Addendum be postponed. Farmers had not protested the catchment load limits, rather their method of allocation.

The Zone Committee agreed to not sign off on the Draft ZIP Addendum and requested more time from the ECan Commissioners to work through the Nitrogen allocation issue. The ECan Commissioners agreed to extend of time, which allowed the Zone Committee and ECan staff to start a further process to resolve the outstanding Nitrogen allocation issue. The Environment Canterbury planning and technical team had to take a step back and work out an approach to facilitate higher levels of understanding within the community and a process that would generate partnership, engagement and ownership from the community.

Phase III – Further Development

The Nutrient Allocation Reference Group (the ‘NARG’) was established from the local community including those with farming interests (e.g., irrigated, non-irrigated, arable, dairy, sheep and beef, vegetables), rūnanga representatives and those with general community interests. It was time for an almost “clean slate” and the original proposal to the Zone committee for nutrient allocation was set aside with a range of Nitrogen allocation options put back on to the table for a fresh discussion.

Full consensus on agreeing on a Nitrogen allocation method was not expected at the start but became a possibility as the process evolved and as the NARG’s level of understanding, engagement and application of problem solving skills grew.

The first NARG meeting (19 March 2014) agreed on the following roles:

- The NARG’s role was to work with ECan staff to describe and assess options for allocating Nitrogen, and to express views either individually or (preferably) as a group, back to the Zone Committee for consideration.
- The ECan technical team (and other technical contributors for stakeholders such as Dairy NZ and other industry staff) had the role of providing objective information. The technical role would be performed transparently and free of bias for any particular option or party, and according to the *NZ Environment Court’s Code of Conduct for expert witnesses*.
- The Zone Committee was responsible for making decisions on the content of the ZIP Addendum which would include recommendations on Nitrogen allocation to ECan Commissioners and to the Waitaki and Waimate District Councils.
- ECan planners would incorporate the recommendations into an RMA regional plan.

A facilitator role emerged as discussion progressed, developing in response to requests from the community and was very important in achieving consensus. Several farmers stepped up to lead discussions and off-line meetings and to bring compromise solutions back to the table. The importance of local leadership to quality debate and final consensus agreement cannot be over-stated.

The early meetings generated common understanding of the information and developed engagement from within the group. This was supported by the technical team and also by local farmers who contributed greater accuracy to some of the technical information e.g. soil types.

The middle meetings assessed a spectrum of Nitrogen allocation options which was supported by contributions from the Land and Water Partnership (LWP), Otago Regional Council, the background reading the NARG carried out and the technical team. These meetings reduced the original seven allocation options to three.

Phase IV – Arriving at Final Consensus

The final meetings facilitated consensus and allowed the NARG to decide on one option as a recommendation to the Zone Committee. During this process of consensus building, the group decided the one option with support from the NARG would stand a better chance of being accepted by the Zone Committee with less chance of it being changed to something they would see as less acceptable.

With the selected option, agreed changes were introduced to address the concerns of the low emitters and high emitters. By introducing ‘flexibility caps’ and ‘maximum caps’, the group could address the low emitters concerns. Further adjustments to include soil based maximum cap numbers and time frames for introduction provided options that the high emitters could live with. Low emitters could intensify and increase losses within limits and high emitters could live with the limits and costs of maximum caps.

The final NARG meeting developed a joint recommendation for the Zone Committee. Agreed statements were written up and the “agree to disagree” matters (the size of the maximum caps and the flexibility caps, and the timing for both of these) remained disputed until, literally, extra time called after an evening cup of tea. Consensus building at this time gave the opportunity for the meeting to agree on the final wording.

The NARG consensus position was accepted by the Zone Committee and incorporated into the ZIP Addendum. Most members of the NARG were present to witness the Zone Committee discussion and the unanimous carrying through of the NARG agreement. The Environment Canterbury Commissioners accepted the ZIP Addendum on 24 July 2014 with the Waimate District Council and Waitaki District Council separately accepting the ZIP Addendum in their September meetings.

Discussion

The NARG process arose out of a failure to initially achieve complete community engagement with the SCCS limit setting process. The technical and planning team who authored the draft² report believe that the NARG process was ultimately successful in that it:

- Achieved a strong level of community engagement which brought local farmers together to discuss and find local solutions for meeting the Nitrogen load limits that will assist achieve the common goal of environmental outcomes;
- Increased understanding of the Nitrogen allocation options, technical information presented, its uncertainties and the basis on which decisions need to be made;
- Allowed differing views and opinions to be heard and understood, increasing understanding of the implications of options for others and stimulated creative local problem solving (Flexi/Maxi Cap solutions);
- Achieved a strong level of consensus on rejection of the two extreme options (grand-parenting and simple averaging) and acceptance of a combination option (the ‘agreed position’) that provides some flexibility for low emitters, time for high emitters to reduce their loss rates, and gradually moves towards a type of modified equal allocation through time;
- Acknowledges that everyone did not get exactly what they would have preferred, but that everyone got something they could apparently live with.
- Engendered a genuine feeling amongst participants at the final meeting, of a sense of achievement that follows satisfactory completion of something very difficult.

The process of expressing dissatisfaction with the initial solution, the subsequent commitment to engage, to learn and understand more about different options, to respect differing points of view and that “fairness” means compromise in recognising the situations of others and sacrificing something yourself. It has given opportunities for some to lead and all to contribute in developing a community solution to achieve outcomes for a local community. Strong support from the Planning and Technical team complimented local participation and leadership – an excellent example of the principles of the Canterbury Water Management Strategy.

References

Harris 2012: *Guidance on Allocation Decision Making*

Lilburne et al., 2013: *Interim Canterbury Look-up Tables (LUT)*

Lilburne 2014, Fietje 2014: *Overseer® N-loss estimates for those soil types to supplement the LUT.*

Norton et al 2014: *“Process and outcomes of the Nitrogen Allocation Reference Group (NARG) for the South Canterbury Coastal Streams Area” (Draft)*

² Norton et al, Jan 2015, *“Processes and outcomes of the Nitrogen Allocation Reference Group for South Canterbury Coastal Streams Area” (Draft)*

Appendix I- Final Agreed Outcome

Key elements of the agreed framework are as follows:

1) *Good Management Practice (GMP)*

All land users to achieve a minimum of GMP, as to be defined in the Matrix of Good Management (MGM).

2) *Maximum Caps*³

The Maximum Caps vary by soil type and on the basis of the technical information provided by Look -Up Tables. It set maximum caps and GMP requirements of:

- i) A Maximum Cap of between 20 -35 kg N/ha/yr. depending on soil class and stocking rate
- ii) The Maximum Caps, if fully implemented by all current land users and new scheme users, would create sufficient ‘headroom’ (compared to everyone operating at GMP without Maximum Caps) to allow the Flexibility Cap for low emitters to be lifted from 15 kg N/ha/yr. to 17 kg N/ha/yr., and assuming that mitigation measures such as augmentation are effective for mitigating nutrient loads and achieving outcomes in Wainono Lagoon.

3) *Flexibility Caps*

- 1) A Flexibility Cap of between 10-17 kg N/ha/yr., depending on maximum caps being achieved, augmentation into Wainono from irrigation development and achievement of the Zone Committees objective of a TLI score of 6.0 for Wainono Lagoon.
- 2) The land uses understood at the time to be enabled by flexibility caps at 10, 15 and 17 kg N/ha/yr. are those shown in the Look Up Tables in Appendix II.

4) *Steep hill country*

It was agreed that ‘steep hill’ country (defined in mapping terms as the area covered by soil classes ‘Hurunui’ and ‘Class 7’⁴) would be assigned a low flexibility cap of 5 kg N/ha/yr. This allowed the flexibility cap for non-steep hill areas to increase from 10 to 15 kg N/ha/yr., as described above.

³ See Appendix III

⁴ Note that this definition of ‘steep hill’ area produces a map that aligns very closely with hill country land that is steeper than about 15 degrees.

Appendix II: Reading list for NARG in March 2014

General overview of allocation approaches

- Ford, R 2012 *Managing scarce resources: Options for allocating catchment nutrient loads paper* presented to the Regional Committee 29 October 2012
- Guest & Ford 2011 *Managing catchment nutrient loads: a Review of Different Policy Instruments* Land Use & Water Working Paper # 2
- Landcare Research 2013 *Modelling economic impacts of nutrient allocation policies in Canterbury Hinds catchment* MfE report no CR 166
- Selman, M., Greenhalgh, S 2009 *Eutrophication: policies, actions and strategies to address nutrient pollution*. World Resources Institute Policy Note no 3

Grandparenting

- E.g. Environment Waikato, 2007: Waikato Regional Plan. Variation No. 5 – Lake Taupo Catchment
<http://www.waikatoregion.govt.nz/Council/Policy-and-plans/Rules-and-regulation/Protecting-Lake-Taupo/>

Natural Capital (based on Land use capability classes)

- e.g. Horizons Region One Plan
<http://www.horizons.govt.nz/about-us/publications/about-us-publications/one-plan-publications-and-reports/proposed-one-plan/>

Property Based Discharge standards (Currently before the Environment Court)

- e.g. Otago Regional Council
<http://www.orc.govt.nz/Publications-and-Reports/Regional-Policies-and-Plans/Regional-Plan-Water/Proposed-Plan-Change-6A-Water-Quality/>

Averaging or equal allocation

- Lilburne, L Webb, T 2012 *An equal allocation for allocation of a total nutrient load within a nutrient management Zone* ECan report no R12/36

Auctioning

- New Zealand Fisheries Quota system
Lock, K.; Leslie, S 2007 *New Zealand's Quota Management System: a history of the First 20 years*. Motu Working paper 07-02. Motu Economic and Public Policy Research. April 2007

Nitrates Directive European union

- <http://ec.europa.eu/environment/pubs/pdf/factsheets/nitrates.pdf>
- http://ec.europa.eu/environment/water/water-nitrates/index_en.html

Public subsidies to improve water quality – United States

- <http://www.wri.org/sites/default/files/mrbi.pdf>

Appendix III Look-Up Tables ⁵

Land Use	XL	VL	L	M	H	Pdl	Pd
Arable (mixed grazing+dry) std mgmt	24	19	21	15	7	3	11
Arable (mixed grazing+irrig) std mgmt	27	21	23	21	15	8	12
Arable (seasonal grazing+dry) std mgmt	28	15	15	7	1	1	8
Arable (seasonal grazing+irrig) std mgmt	31	23	25	15	5	3	12
Beef (dry)	41	27	15	13	10	5	8
Beef (Irrig)	55	38	23	21	18	9	12
Dairy (3 cows/ha+winteroff)	47	35	24	21	18	9	12
Dairy (3 cows/ha+winteron)	55	38	23	21	18	9	12
Dairy (4 cows/ha+winteroff)	66	50	35	30	26	13	17
Dairy (4 cows/ha+winteron)	66	49	33	29	25	12	17
Dairy (5 cows/ha+winteroff)	78	59	41	36	32	16	20
Dairy support	51	34	19	16	13	6	9
Dairy support (Irrig)	69	48	29	26	22	11	15
Deer (dry)	10	9	8	8	8	4	4
Deer (Irrig)	32	25	18	16	14	7	9
Dryland Dairy	35	26	18	16	14	7	9
Forestry - exotic (Dev)	1	1	1	1	1	1	0
Sheep (dryland)	9	8	7	7	7	3	3
Sheep (irrig)	27	21	15	13	12	6	7
Sheep/Beef (10% beef+dry)	21	15	10	9	8	4	5
Sheep/Beef (10% beef+irrig)	37	27	18	16	15	7	9
Sheep/Beef (20% beef+dry)	27	19	12	10	9	4	6
Sheep/Beef (20% beef+irrig)	42	30	19	18	16	8	10
Sheep/Beef (50% beef+dry)	36	24	14	12	10	5	7
Sheep/Beef (50% beef+irrig)	50	35	22	20	17	9	11
Apples	8	8	8	6	6	3	4
Summerfruit	8	8	7	5	6	3	4
Berryfruit	12	12	12	8	12	6	6
Vegetables	57	34	23	19	17	8	12

DRAFT NUMBERS

Red land uses must reduce to meet Max Caps (35, 25, 20)

Orange land uses carry on at GMP but can't increase

Green land uses may increase to Flex Cap of 15 (but still at GMP)

⁵ Norton et al 2015, "Processes and outcomes of the Nitrogen Allocation Reference Group for South Canterbury Coastal Streams Area" (Draft)